

FINANCIAL TIMES

Wednesday September 14 1988

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US ELECTION

Tacticians dominate party campaigns

Page 4

Table with exchange rates for various countries including Austria, Belgium, Canada, Denmark, France, Germany, Hong Kong, India, Italy, Japan, Korea, Malaysia, Mexico, New Zealand, Norway, Portugal, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, UK, USA, West Germany.

No.30,641

World News

Cuban envoy expelled after shooting in London street

Cuba accused the British and American intelligence services of being indirectly responsible for a shooting incident in London on Monday night...

Business Summary

Paribas sells UK broker to Commercial Union at loss

QUILLER GOODISON, the UK firm headed by Sir Nicholas Goodison, London Stock Exchange chairman, is being sold by Paribas Group...

Genscher likely to visit Iran as relations improve

By David Marsh in Bonn and Jim Muir in Beirut. MR Hans-Dietrich Genscher, the West German Foreign Minister, is likely to visit Tehran in November or December...

Tehran tomorrow for top-level talks on economic co-operation. He will attend a business fair in Tehran at which 70 West German companies represent the largest group of foreign exhibitors.

charges of hijacking a US aircraft in 1985. In Beirut, the release of Mr Cordes was seen yesterday as a generally hopeful sign for the fate of some 15 other Western hostages still in captivity.



Genscher: quiet diplomacy

Silicon summit decides against Japan

By Louise Kehoe in San Francisco

IT TOOK five hours behind closed doors, but when the senior executives of 20 of the largest electronics companies in the US emerged from an extraordinary industry summit held in Silicon Valley last week...

Monetary talks open

The first in a series of high-level meetings which may well lay the foundations for European monetary union got off to a good start in Basle...

Consolidated Gold Fields

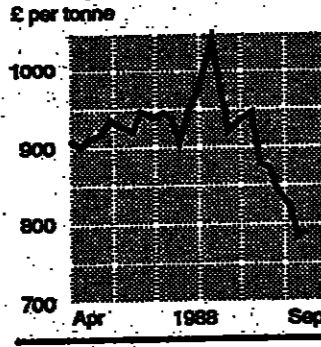
London-based mining finance house and construction materials group, increased pre-tax profits by 24 per cent to \$202.4m (\$151m) in the year to June 30...

US consulate drama

Three of South Africa's best known anti-apartheid activists escaped from detention and took refuge in the US consulate in Johannesburg...

Cocoa

Second position futures £ per tonne. Prices touched new lows before recovering to close ahead on the day...



Deadlock in Burma

Opposition leaders told a state-appointed election commission in Burma that neither they nor the general public would accept a poll organised by the current Government...

British Aerospace

aircraft, missiles and space group, earned pre-tax profits of \$55m (\$16m) in the first six months of this year...

Gulf talks go to NY

The deadlocked Iran-Iraq peace talks will shift from Geneva to New York on September 22, but the Iraqi delegation said it would attend one meeting there if Iraq agreed to resume talks in Geneva on a definite date...

Bongrain

French producer of prepared meats and cheeses, made an agreed \$12.50 per kilo tender offer to acquire SIR, an unquoted chemicals and textiles business...

Arafat meets MEPs

Over 1,000 mainly Jewish demonstrators protested outside the European Parliament in Strasbourg, where Yasser Arafat addressed Socialist MEPs...

Montedison

Italian chemical company 42 per cent owned by ENI, made a tender offer to acquire SIR, an unquoted chemicals and textiles business...

Hurricane Isaac

Hurricane Gilbert intensified, bringing winds of over 200 km per hour to the Cayman Islands after causing severe damage in Jamaica and leaving at least seven dead in its passage across the Caribbean...

Donnay

Commercial court in southern Belgium set a new deadline on offers for the bankrupt tennis racket maker, selecting a BEF150m (\$3.9m) bid from Jean Jacques Frey, French businessman...

Anglo-Irish talks

British and Irish government ministers held security talks in Dublin, against a background of growing IRA violence...

Imperial Chemical Industries

UK's biggest chemicals company, is to build a \$50m (364.5m) plant in Japan to make high-quality polyester film for printing, electronics and photography...

Solidarity accused

Poland's Government accused supporters of the banned Solidarity trade union of setting unacceptable conditions for prospective talks...

West Germany's eight stock exchanges

are to quote prices for a total of 26 widely traded public bonds on a variable basis during the house session from October 3...

Sweden says protest

Sweden said it had protested to the Soviet Union after finding eavesdropping devices in its Moscow embassy for the second time in two years...

South Africa

has run down its stockpile of oil, to release foreign exchange to meet debt-service and other balance-of-payments requirements, the Shipping Research Bureau said...

Sikh shoot 13 dead

Sikh militants shot dead 13 people and wounded about 20 in an attack on crowds in the grain market at Stirling village market in India's Punjab state...

Monsanto

US chemicals and pharmaceuticals group, suffered its second major legal setback in days when a court ruled it could be sued by a woman alleging she was harmed by a contraceptive device, made by its G.D. Searle subsidiary...

Saudi-Japan visit

Saudi Arabian Foreign Minister Prince Saud Al-Faisal might visit Japan this autumn to bolster political and economic ties between the two countries, the Japanese ambassador to the kingdom said...

Poland

Flat, Italian vehicle maker, ordered Japanese company to build a five year battle for the contract to build a new medium-sized car in Poland at Warsaw's FSO plant...

Siberians speak out

Soviet leader Mikhail Gorbachev made an impassioned appeal for support of his economic and political reforms as he was harangued by Siberians angry about housing, food shortages and medical care...

Banks 'unable' to meet loan demands from Third World

By Nancy Dunne in Washington

COMMERCIAL BANKS have neither the capacity nor willingness to meet their share of the financing needs of debtor countries in the Third World...

required under a World Bank assessment of debt crisis in the middle income debtor countries. He listed several reasons why this view was "unrealistic"...

In a letter to the chairman of the International Monetary Fund Interim Committee and the World Bank Development Committee, Mr Horst Schulmann, the Institute's managing director, said demand for new bank financing from developing countries "exceeds the capacity and willingness of banks to supply it"...

This applied even in those countries which had maintained strong adjustment programmes and serviced their debt. The increase of dollar interest rates of about 1 1/2 percentage points since last April had already added \$7.5bn to debt service requirements, he said...

The Fund's current level of liquidity was more than adequate to support an expansion of lending. But "an early increase in member quotas under the Ninth Quota Review and an increase in members' access limits would provide for medium-term support"...

Mr Schulmann said sharply rising world interest rates would jeopardise further progress on the debt problem. Banks were seeking new, more lucrative lines of business...

Mr Schulmann said the banks could not possibly supply the \$8bn to \$9bn a year required under a World Bank assessment of debt crisis in the middle income debtor countries. He listed several reasons why this view was "unrealistic"...

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British Gas raid on Lasmo oil group wins only 1% of shares

By Max Wilkinson, Resources Editor, in London

BRITISH GAS, the former state-owned group, yesterday launched a dawn raid on the shares of London and Scottish Marine Oil (Lasmo), the independent oil producer, but it gained only a small foothold in the company...

Lasmo, which is due to announce delayed quarterly results today, said it was taken by surprise, even though it had also been in talks with British Gas about the possibility of its buying the RTZ stake...

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Iraq faces UN probe on use of chemical arms

By Our Foreign Staff

THE UNITED NATIONS told Iraq yesterday that it wanted to send a team of investigators to probe allegations that the Iraqis have been using chemical weapons against the country's Kurdish minority...

had conclusive evidence of Iraqi use of chemical weapons against dissident Kurds. He told the Senate Judiciary Committee that the US wanted a UN investigation to give the charges "an international imprimatur"...

Iraq, which has denied the allegations, indicated it would probably refuse to admit the investigators. The controversy heightened fears that the Iraqis would take a more stubborn line in the slow-moving UN-sponsored talks to resolve the Iran-Iraq war...

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Mr Perez de Cuellar put a UN request for Iraq to accept an investigatory mission yesterday to Mr Ali Mahmoud Sumaida, Iraq's UN charge d'affaires. The UN chief said he was acting on behalf of the US, Britain, West Germany, Italy and Japan, as well as the five Nordic countries - Denmark, Finland, Iceland, Norway and Sweden...

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MARKETS

Table with market data including W Germany FAZ Index, US Treasury Bills, Long Bond, and various interest rates.

Table with stock indices including New York close, Dow Jones Ind. Av., Nikkei Ave, and various futures prices.

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Table of contents listing various articles and their page numbers, including 'French fall in bid to bridge gap between centre and left' and 'Management Piper Alpha disaster'.

Management Piper Alpha disaster

Table of contents listing various articles and their page numbers, including 'Management Piper Alpha disaster' and 'UK unemployment'.

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EUROPEAN NEWS

Fiat chief steps into political row

By John Wyles in Rome

MR Cesare Romiti, the Fiat Group's managing director, has stepped into a simmering party political row by stressing Fiat's growing impotence with obstacles to a draft agreement with the public sector which would leave the Turin group in control of Italy's aero-engine production.

Government's inner cabinet next week at which the whole question of public sector reorganisation will be discussed. The Fiat-Finmeccanica understanding together with agreements between Iri and Eni, the state energy company, to collaborate in the gas turbine sector have been frozen by Mr Bettino Craxi, the Socialist leader, pending a coalition agreement on possible restructuring of Iri, Eni and the smallest of the three public holdings, Efim.

Although Mr Franco Reviglio, the Fiat president, comes from what is known as the "socialist area", the Socialists tend to regard Efim, whose president Mr Romano Vallani is a Social Democrat, as their only real participation in the public sector.

Alfa Avvio, which specialises in helicopter engines and made profits of just over £60m (£4.6m) on total sales of more than £200m last year, would sit alongside Fiat's aero-engine component-manufacturing activities which contributed £300m to the group's £3,000m sales in 1987. Alfa Avvio's principal customer is Efim's Agusta helicopter manufacturing company.

PLO ready for talks with Israel, hints Arafat

By William Dawkins in Strasbourg and Andrew Gowers in London
MR YASSIR Arafat, Palestine Liberation Organisation chairman, yesterday gave a fresh hint that he could hold discussions with Israel on resolving the Palestine conflict, but provided little fuel for speculation about a radically new PLO approach to the issue.

A conference could "discuss and agree arrangements for international guarantees of peace among all states of the region, including the independent Palestinian state." An independent Palestinian state, established on territory "liberated" from Israel, would have a republican, democratic and multi-party system, and would not discriminate among its citizens on the basis of colour, race or religion.

Hitch for EC proposals on car exhaust pollution

By William Dawkins in Strasbourg

PLANS by the European Community to have exhaust pollution from small cars may hit a roadblock today when Members of the European Parliament call for tougher standards than those tenuously agreed by Community governments.

Toughening of the proposals would provoke intense opposition from EC car producers. France - under pressure from Peugeot - recently withdrew its support for the Commission scheme, thereby removing even the qualified majority.

The West German cabinet yesterday approved a new recycling law for plastic bottles - in response to the growing significance of environmental issues in West German politics - and was denounced by the Coca-Cola Corporation, writes David Goodhart in Rome.

recycling through retail outlets and to pay up to 50 pence per returned bottle, as they already do with most glass bottles. The law comes into force on January 1.

Sjoberg vote touches a raw nerve

Robert Taylor finds a Swedish town which has refused immigrants

SJOBERG is a small, unassuming town set in the rolling, fertile countryside of Skåne in southern Sweden. A quiet enough place, it looks prosperous and dull with not a care in the world. But in the Swedish general election campaign it has become a byword for intolerance and aroused a passionate national debate about the country's attitude to foreign-born immigrants.

through letterboxes in the town was written by members of the far-right Swedish movement, but paid for and supported by the local Centre party led by Mr Sven-Olle Olsson, who ran the council for 12 years and still enjoys a dominant influence among the voters there.

Sweden as a young man to escape from Nazism. So did the former German chancellor Willi Brandt when he fled there from Norway after Hitler's occupation of that country in 1940.

As many as a million of Sweden's population of 8.4m are immigrants or have at least one immigrant parent and foreign nationals account for 5 per cent of the workforce. Last year overestimated 20,000 people from overseas obtained permits to stay in the country.

The town is one of only two local councils in the country which has refused the Government's request that they should shoulder their responsibilities by adopting a welcoming attitude to foreigners who wish to settle there and its elected leaders want to maintain their hostile attitude. An opinion poll carried out locally at the end of August suggests that a narrow majority of Sjoberg voters agree with them.

What has particularly focused nationwide attention on Sjoberg over the past week has been the discovery that an anti-immigrant booklet pushed

already and that those who have come are turning the country into a multicultural society, which will destroy the purity of Swedish culture. So far, Sjoberg has not attracted the head-headed punks in bowler hats that characterise the country's racist right-wing fringe in the cities, as elsewhere in Europe.

These is a bipartisan attitude towards immigration in Sweden that remains fairly strong, though some politicians on the right are concerned that the country is perhaps being used by terrorist groups like Abu Nidal and the Provisional IRA for rest and recreation.

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This Notice does not constitute an offer of securities of BfG Finance Company S.V. but does require action on the part of the holders of the Notes referred to below.

BfG:

Bank für Gemeinwirtschaft Aktiengesellschaft

Exchange of

U.S. \$200,000,000 Floating Rate Notes 1996, issued in May 1986

for

U.S. \$200,000,000 Floating Rate Notes 1996 of BfG Finance Company B.V.

Secured by a deposit with the London branch of Bank für Gemeinwirtschaft Aktiengesellschaft

The purpose of the exchange is to replace the Notes of Bank für Gemeinwirtschaft Aktiengesellschaft with new notes of BfG Finance Company B.V., payments of interest on which may be made free of withholding taxes imposed by the Federal Republic of Germany with effect from 1st January, 1989.

BfG Finance Company B.V. offers to make the exchange on the following basis: For every U.S. \$10,000 principal amount of Notes of Bank für Gemeinwirtschaft Aktiengesellschaft U.S. \$10,000 principal amount of New Notes of BfG Finance Company B.V.

Exchange Proposal: This Notice is published in connection with a proposal being made by BfG Finance Company B.V. ("BfG Finance") to issue in exchange for the existing U.S. \$200,000,000 Floating Rate Notes 1996 (the "Notes") of Bank für Gemeinwirtschaft Aktiengesellschaft ("BfG") issued on 22nd May, 1986, a new issue of U.S. \$200,000,000 Floating Rate Notes 1996 (the "New Notes") of BfG Finance, secured by a deposit with the London branch of BfG.

The exchange of Notes for New Notes would take place on 28th November, 1988 (the "Exchange Date"), which is the next interest payment date for the Notes. The interest due on the Notes on that date will be paid by BfG. Definitive New Notes will be available not earlier than 90 days after the Exchange Date upon certification of non-US beneficial ownership.

Full details of the exchange proposal and the New Notes are contained in a circular to Noteholders issued by BfG Finance dated 14th September, 1988 (the "Circular"). Copies of the Circular together with the related Voting Certificate and Voting Instruction may be obtained by Noteholders from Cedeal and the operator of the Euro-clear system or any of the other addresses listed below.

A Meeting of Noteholders will be held on 6th October, 1988 at which an extraordinary resolution will be proposed to sanction the exchange proposal. If passed, the extraordinary resolution will be binding upon each Noteholder (and the holder of each coupon appertaining thereto), whether or not present at the Meeting or voting on the extraordinary resolution, and the whole issue of Notes will be exchanged on 28th November, 1988 for New Notes. The Notice of Meeting is set out below.

New Notes: The New Notes will constitute unconditional obligations of BfG Finance and will rank pari passu and rateably without any preference or priority among themselves. Due payment of the principal and interest in respect of the New Notes will be secured by the assignment to Barclays Trust Company Limited as trustee for the holders of the New Notes (and of the coupons appertaining thereto) by BfG Finance of its rights in respect of the deposit of U.S. \$200,000,000 with BfG at its London branch. Interest will accrue on the New Notes at the same rate and be payable on the same terms, mutatis mutandis, as apply to the Notes. The text (subject to modification) of the terms and conditions to be endorsed on each of the New Notes and a description of the deposit are set out in the Circular. Drafts (subject to modification) of the trust deed by which the New Notes will be constituted and of the deposit agreement are available for inspection at any of the addresses listed below.

Application has been made for the New Notes to be admitted to the Luxembourg Stock Exchange. A description of the New Notes is set out in the Circular.

Meeting of Noteholders: The quorum at the Meeting of Noteholders to sanction the exchange proposal will be two or more persons present in person holding Notes and/or voting certificates and/or being present and being or representing in the aggregate a majority in principal amount of the Notes. If a quorum is not so present the meeting will be adjourned to 20th October, 1988 at the same time and place. The quorum at any adjourned meeting will be two or more persons present in person holding Notes and/or voting certificates and/or being present (whenever the principal amount of the Notes so held or represented).

In order to be passed, at the Meeting or any adjournment thereof, the extraordinary resolution must be carried by a majority consisting of not less than three-fourths of the votes cast thereon in accordance with the provisions of the Trust Deed constituting the Notes.

In accordance with normal practice the Trustee expresses no opinion on the merits of the exchange proposal but has authorised it to be stated that it has no objection to the extraordinary resolution being submitted to the Noteholders for their consideration.

Notice of Meeting

Notice is hereby given that a Meeting of the holders (the "Noteholders") of the U.S. \$200,000,000 Floating Rate Notes 1996 (the "Notes") of Bank für Gemeinwirtschaft Aktiengesellschaft ("BfG") which are constituted by a trust deed (the "Trust Deed") dated 22nd May, 1986 and made between BfG and Barclays Trust Company Limited will be held at the offices of Linklaters & Paines, Barrington House, Gresham Street, London EC2V 7JA on 6th October, 1988 at 11.30 a.m. (London time) for the purpose of considering and, if thought fit, passing the following extraordinary resolution in accordance with the provisions of the Trust Deed.

Extraordinary Resolution

"That this Meeting of the holders of U.S. \$200,000,000 Floating Rate Notes 1996 (the "Notes") of Bank für Gemeinwirtschaft Aktiengesellschaft ("BfG") hereby sanctions the exchange of the Notes for U.S. \$200,000,000 Floating Rate Notes of BfG Finance Company B.V. secured by a deposit with the London branch of BfG upon and subject to the terms and conditions of the exchange proposal made by BfG Finance Company B.V. in a Circular dated 14th September, 1988 to the holders of the Notes and assents to the implementation of such exchange proposal in accordance with its provisions and otherwise in accordance with the terms of the said Circular."

Dated 14th September, 1988 By order of the Board of Bank für Gemeinwirtschaft Aktiengesellschaft

Gerd M. Rothhardt Matthias Hofmann-Werther Managing Directors

- 1. To attend and vote at the Meeting, Noteholders must produce either their Notes or voting certificates. To obtain a voting certificate Noteholders must deposit their Notes at any time with, or to the order of, any Paying Agent (other than a Paying Agent whose specified office is in the United States of America) not later than 48 hours before the time fixed for holding the Meeting or adjourned Meeting but not thereafter.

Action Required

- (A) Noteholders not holding in Cedeal or Euro-clear: To obtain a voting certificate or voting instruction form, you should deposit your Notes at any of the addresses listed below by not later than 11.30 a.m. (London time) on 4th October, 1988. All voting instruction forms, to be valid, must be returned to the relevant Paying Agent no later than this time and date.

Documents

- The following documents are available for collection or inspection at the offices of the Paying Agents listed below from the date of this Notice until the conclusion of the Meeting or any adjourned such Meeting. (A) Documents available for collection by Noteholders: (i) voting certificates (in respect of Notes deposited with, or held to the order of, a Paying Agent); and (ii) voting instruction forms (in respect of Notes deposited with, or held to the order of, a Paying Agent); and (B) Documents available for inspection by Noteholders: (i) the Trust Deed constituting the Notes; (ii) the annual reports and accounts of BfG and BfG Finance for the two years ended 31st December, 1986 and 31st December, 1987; (iii) the constitutional documents of BfG and BfG Finance; (iv) drafts (subject to modification) of the Trust Deed and Deposit Agreement to constitute and secure the issue of the New Notes.

Principal Paying Agent: Manufacturers Hanover Limited, 7 Princes Street, London EC2P 2LR. Paying Agents: BfG: Luxembourg S.A., 2, rue Jean Bertholet, L-1233 Luxembourg. Barclays Bank plc, Bank of America New York, 100 Broad Street, New York, N.Y. 10048.

The Mitsubishi Trust and Banking Corporation, 4-5, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100. Union Bank of Switzerland, Bahnhofstrasse 65, CH-8021 Zurich.

The New Notes have been accepted for clearance on issue through Cedeal (reference No. 229083) and through Euro-clear (reference No. 57673). Further particulars are contained in the Circular, which will be sent by Cedeal and Euro-clear to their account holders.

This Notice has been issued by Bank für Gemeinwirtschaft Aktiengesellschaft. It has been approved by The Nikko Securities Co. (Europe) Ltd., a member of The Securities Association and of The International Stock Exchange of the United Kingdom and the Republic of Ireland Limited. The Nikko Securities Co. (Europe) Ltd. acted as lead manager in respect of the original issue by Bank für Gemeinwirtschaft Aktiengesellschaft in May, 1986 of U.S. \$200,000,000 Floating Rate Notes 1996.

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EUROPEAN NEWS

US officials to question Bonn on Airbus funding

By David Marsh in Bonn

THE US will today will ask the Bonn government to explain how funding of the European Airbus project will be affected by a proposal to restructure the West German aerospace industry under the control of Daimler-Benz, the engineering conglomerate.

Mr Alan Holmer and Mr Bruce Wilson, senior officials from the office of the US Trade Representative, will call on the Bonn Economics Ministry as part of a series of talks in European capitals to try to iron out differences between the US and Europe on Airbus subsidies.

The officials, who will see Mr Dieter von Wuerzen, state secretary at the Economics Ministry, have already been to Paris and will travel on later this week for talks with the EC Commission in Brussels and the British government in London.

The US is focusing its complaints on allegedly unfair European subsidies for the new Airbus A330 and A340 airliners. Washington is particularly

anxious to find out from Bonn whether the Government's plans for Daimler-Benz to take management control of Messerschmitt-Boelkow-Blom, the main West German aerospace group will end up increasing further public Airbus aid.

MBB is the West German partner in the four-nation Airbus Industrie consortium. Although the plan is still a long way from being formally agreed, Bonn is offering Daimler-Benz extra public money and exchange rate guarantees connected with the loss-making Airbus project to encourage the company to take a 30 per cent stake in MBB.

Until now Daimler has made an agreement over MBB conditional on a government accord to take responsibility for Airbus risks over the next decade. This condition, it met, could entail a fresh injection of billions of D-marks of public funds into the Airbus venture, countering head-on the US policy of phasing out development subsidies for new airliner types.

Swiss rule out early application to join EC

SWITZERLAND said yesterday it would not try to join the European Community now because the political price would be too high but it left open the possibility of future membership, Reuter reports from Berne.

"We are not ready... at present to pay the political price that joining the Community would bring," Mr Rene Feller, Foreign Minister, said.

He and Mr Jean-Pascal Delamuraz, Economics Minister, were presenting a report containing the government's most detailed analysis yet of how the 12-nation EC's plan to turn itself into a single market by 1992 could affect Switzerland.

The report said Switzerland's neutrality and unique system of direct democracy, in which voters decided virtually any issue in a referendum, were incompatible with membership in the EC.

A federal system devolving much power to the 26 cantons and limiting the authority of the federal government in Berne was also an obstacle.

But the report left open the possibility of future Swiss membership if the EC developed federal political structures and Swiss public opinion turned in favour of joining the Community.

French fail to build their political bridge

Ian Davidson on the gulf remaining between the centre and the left

IN MAY, President Francois Mitterrand swept back to power with an undertaking to build a broader basis of government, open to the centre.

But if the voters were enthusiastic at the idea of a less combative approach to politics, the immediate effect on the political parties has been perverse.

Discord has been sown in all parts of the political spectrum, and the chances of a bridge being built between the ruling Socialists and the centre look if anything more dubious than they did at the time of Mr Mitterrand's victory.

Within the Gaullist RPR camp, discord was inevitable after its electoral setbacks.

Mr Jacques Chirac, the RPR leader, has started cautiously to re-emerge in public, but recriminations over where the party goes next are only now beginning to come out into the open.

Mr Philippe Seguin, an ex-minister and a would-be reformer of the party, has implicitly blamed Mr Chirac for the electoral defeat: he has said that the party "had other things to do than organise presidential candidacies for Jacques Chirac".

But Mr Chirac shows no sign of giving up, or of choosing between traditionalists and reformers; for some time,



Chirac: the RPR is still taken up with recriminations

it will break down under local pressures.

But if it sticks, it will strengthen the chances of renewed alliances between the Gaullists and the other traditional conservative parties of the centre-right.

Mr Raymond Barre, ex-Prime Minister and also-ran in the presidential election, has done his best to enforce the isolation of Mr Le Pen by tabling a draft law which would forbid the merging of party lists between the two rounds of next spring's municipal elections.

This would not prevent alliances between the Gaullists and the National Front but it would ensure that they were publicly decided before the first round of voting.

The Barre proposal may well have forced the Gaullists' hand over Le Pen. But perversely, it may also reinforce links between the Socialists and the Communists and thus weaken the prospect of bridge-building between the Government and the centre.

Both parties reacted with immediate hostility to the Barre proposal; but the debate has served as a reminder that a large chunk of the Socialist party remains far more attached to some form of the traditional left-wing alliance with the Communist Party, than to the suspect attractions of an opening to the centre.

For the moment, relations between the Government and the centre resemble a curious quadrille, with much backing and advancing, but no clear prospect of a decisive encounter. Mr Barre has repeatedly indicated his general support for the broad orientations of Mr Mitterrand's policy, and he recently created a mild sensation by hinting at the possibility of taking part in an enlarged coalition government.

But Mr Barre is not a party leader and it is not clear whether he could deliver a disciplined body of parliamentarians.

Mr Pierre Menthon, who leads the Centrist party to which Mr Barre is affiliated, shows deep ambivalence over a formal link with the Government.

He has written to Mr Michel Rocard, the Prime Minister, setting out his party's views on a number of policy issues, as if seeking a formal negotiation; unlike Mr Barre, however, he has said that he does not support Mr Mitterrand's broad orientations, and places himself in the opposition.

President Mitterrand remains serenely aloof. His position, at least, is untested and uncontested; it is only poor Mr Rocard who has to struggle to turn his undertaking of more open government into practical reality.

Thatcher to meet Walesa in Gdansk

By Charles Hodgson in London

MRS Margaret Thatcher, the British Prime Minister, will meet Mr Lech Walesa, leader of the banned Solidarity trade union, during an official visit to Poland next month.

The talks will take place in Gdansk during a three-day visit from October 18-20, the first by a British Prime Minister to Poland.

Mrs Thatcher will also meet Gen Wojciech Jaruzelski, the Polish leader, and Mr Zbigniew Messner, the Prime Minister, in Warsaw and lay a wreath at the Westerplatte war memorial which marks the spot where the first shots of World War II were fired.

Mrs Thatcher's visit follows an invitation by Mr Marian Orzechowski, the former Polish Foreign Minister, during a UK visit last December.

Christopher Bobinski adds from Warsaw: The prospects for talks which the Polish authorities say they want to hold with Solidarity leaders, and other independent figures, on ways of surmounting the country's economic crisis have dimmed as attitudes on both sides hardened.

Mr Jerzy Urban, the government spokesman, accused Solidarity at a press conference yesterday of threatening to stage more strikes and setting pre-conditions for the talks. The statement dashed hopes that a preliminary meeting planned for today between Mr Walesa and Gen Czeslaw Kies-

crak, the Interior Minister, who is to chair the talks, would take place.

Solidarity, for its part, reiterated at the weekend that the authorities should at least declare their intention to recognise the banned movement and reinstate workers sacked for their part in the strikes last month before the talks begin.

Pro-Solidarity intellectuals, who met on Sunday at St Brygid's church in Gdansk, demanded legalisation of the union as "the main and most urgent condition" for starting a government-opposition dialogue. They warned that Poland could face a massive strike wave if both sides did not act quickly.

Mr Urban said: "On the platform agreed at St Brygid's church one cannot reach agreement which is so badly needed for development of political reforms, for constructive talks on the trade union movement model and for improvement of society's living conditions."

The authorities remain unwilling to legalise Solidarity as a shop-floor organisation. Fledges to reinstate miners in southern Poland within a month were secured as a condition of the ending of the strikes but yesterday Mr Urban implied that reinstatement would only follow progress at the talks.

Finland unveils plan to lower taxation

By Olli Virtanen in Helsinki

FINLAND yesterday unveiled a 1989 budget which marks the first stage of a major tax reform involving a reduction in direct taxation. It provides for a 5.5 per cent rise in spending, which is set to reach FM124.2bn (£16.8bn).

Taxpayers will be slightly better off next year, while the state's net borrowing requirement will be reduced by 40 per cent to FM2.4bn.

The budget, presented to parliament yesterday, will lower all tax brackets, including the highest one, which will come down from 51 to 44 per cent and to 40 per cent in 1990. The gross tax rate will come down by 0.5 per cent to 37 per cent in 1989, but it is still 0.5 per cent higher than in 1987.

The proposed tax reforms aim to cut direct taxes and broaden the tax base. The state will collect FM4.7bn less in income taxes in 1989 while the tax burden on companies will increase by FM800m.

The differences will be covered by increasing taxes on various benefits in kind and cutting a number of allowances. Use of company cars will be taxed close to its actual value, and the same will apply to company provided meals, housing and insurance policies. Corporate taxes will be low-

ered in 1990 from 33 per cent to 28 per cent. The Government also introduces the "avoir fiscal" taxation principle in 1990 in which the company pays taxes on dividend.

Capital gains taxes will tighten. The budget proposal implies that 80 per cent of capital gains on property or securities would become taxable after five years.


The Government also plans to simplify property taxes by introducing just one bracket. The rate of 0.9 per cent will apply to property valued above FM1m. The current tax ranges between 1.0 and 1.7 per cent.

The Government expects Finland's economic prospects to weaken in 1989 due to declining competitiveness, increasing current account deficit and high inflation.

The current account deficit is expected to rise from the current FM9.25bn to FM15.25bn in 1989. Inflation will jump from 3.7 per cent in 1987 to 5.85 per cent this year and the budget statement projects a decline to 4.5 per cent next year.

Finland's GDP is seen rising to 4 per cent this year, including 0.5 per cent which is due to groups returning to normal levels after failure in 1987. Next year the GDP rise will decline to 2 per cent.

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OVERSEAS NEWS

Malaysia has 9% growth in first half

By Wong Sulong in Kuala Lumpur

MALAYSIA enjoyed a 9 per cent growth rate in gross domestic product for the first half of this year, following a 10.5 per cent rate in the second quarter...



Mahathir: above forecast

He said the second half was expected to be less buoyant because of some weakening of commodity prices, but would nevertheless be above official forecasts.

Dr Mahathir said foreign investments during the first half were "90 per cent higher" than the level last year...

In March this year, the Government had forecast GDP growth for 1988 at 5.3 per cent, after 4.7 per cent last year.

Malaysian finance officials say the economy, which made a decisive turnaround in the second half last year on the strength of rising exports, is now experiencing a broad-based recovery...

Impressive growth has been recorded for electronic and electrical goods, textiles, and rubber-based products.

The construction industry which has been in decline since 1983, is also expected to record modest growth this year.

The semi-official Malaysian Institute of Economic Research, has estimated that

Botha visits underline neighbours' reliance on S Africa

By Jim Jones in Johannesburg

PRESIDENT P.W. Botha's two days of visits to Mozambique and Malawi this week are being seen in Pretoria as demonstrating South Africa's commitment to regional cohesion and friendship.

African aid to both countries, observers believe the assistance is equally designed to underwrite their economic reliance on South Africa.

Two years ago, after incursions by ANC guerrillas through Mozambique, Pretoria threatened to stop new migrants and repatriated men whose employment contracts expired for AIDS.

Normally only 15,000 Malawians are employed on South African's mines at any one time - but their annual earnings of about R75m (\$18.2m) are threatened by AIDS.

Water brings Lesotho chance of prosperity

Anthony Robinson reports on an ambitious South African water transfer project

A \$2bn project to transfer water from the mountains of Lesotho to South Africa's thirsty industrial power house, the Pretoria-Witwatersrand-Vereeniging (PWW) area, is taking shape in this landlocked kingdom surrounded by South Africa.

18.3cms of water into South Africa's Ash River and from there into the Vaal Dam 70km south of Johannesburg will take place in 1995.

Lesotho, advised by Standard Chartered Merchant Bank, is responsible for raising capital from the World Bank, the European Community and individual country and commercial lenders.

The last straw was the decision to allow Cuba into Lesotho. This led to an economic blockade in January 1986 followed by a military coup which brought General Justin Lekota to power at the head of a military council.

For Lesotho, it is the biggest project which has ever happened to one of the world's poorest countries. It is totally dependent on South Africa for electricity and most other supplies and its main source of income consist of foreign aid and remittances from over 100,000 Basuto miners working in South African gold mines.

In theory South Africa could have obtained the water from Lesotho's rivers for nothing, by tapping the Sena River as it flows south down into South Africa's Orange River.

In theory it is the sort of scheme opposed by the Southern African Development Co-ordinating Conference (Sadoc), of which Lesotho is a member, as it undermines the policy of making the so-called front-line states less dependent on South Africa.

The military is still in power and the constitution, abrogated in 1970, is still in abeyance. But the Government, which has been gearing up for a return to civilian rule with a clearly defined programme.

The aim of the Lesotho highlands water project is to divert northward up to 70 cubic metres per second (cms) of water which at present runs uselessly into the Atlantic Ocean, some 1,500km away. But that will only be on completion of the final stage in 2026.

By the end of phase two in 2008, this will rise to a maximum of 100cms after the construction of two more downstream dams at Mphahle and Mshali and two more transfer

Two years ago the Lesotho highlands scheme was on ice because of South Africa's distrust of a government led by Chief Leabua Jonathan which allowed Chinese and Soviet bloc countries to establish

embassies and harboured African-National Congress activists. But the Government, which has been gearing up for a return to civilian rule with a clearly defined programme.

Howe holds Uganda talks

By Michael Holman, Africa Editor, in Kampala

UGANDA'S economic recovery programme was expected to be a key issue in talks yesterday between Sir Geoffrey Howe, the British Foreign Secretary, and Mr Yoweri Museveni, the Ugandan president.

Disbursement of a £10m tranche of UK aid to Uganda is conditional on Uganda reaching agreement on an economic programme drawn up in consultation with the International Monetary Fund and the

Iran-Iraq talks move to New York

By William DuForce in Geneva

THE DEADLOCKED Iran-Iraq peace talks under UN mediation will shift their venue from Geneva to New York on September 22, with both sides agreeing to continue the ceasefire.

Mr Eliasson acknowledged that no progress on issues of substance had been achieved since talks started in Geneva on August 25.

Burmese search for peace

By Roger Matthews in Bangkok

OPPOSITION LEADERS in Burma yesterday sought a peaceful way out of the impasse which is threatening further and more violent clashes with the Government.

Japan lifts N Korea sanctions

By Stefan Wagstyl in Tokyo

JAPAN IS lifting diplomatic sanctions imposed on North Korea in the hope of promoting better relations between North and South Korea. The move is also designed to improve bilateral relations with Pyongyang, which were soured in 1983 by the detention in North Korea of two Japanese seamen.

HK 6% growth rate

The Hong Kong economy is heading for growth of 6 per cent in real terms during 1988, against 5 per cent originally forecast, Mr Piers Jacobs, the colony's Financial Secretary, said yesterday.

No evidence of gas

UN and Red Cross representatives found no evidence that chemical arms had been used against Iraqi Kurdish refugees whom they saw last week in north-west Iran, a spokeswoman said yesterday.

US banks 'making little profit in London'

By Lionel Barber in Washington

THE London-based securities affiliates of many US banks either lost money or barely made a profit in 1988 and 1987, according to a US Congressional report.

In several cases, the losses sustained were large enough to force a capital injection by the US parent company, according to the report by the General Accounting Office, Congress's auditing agency.

Dukakis calls for response to Soviet reforms

By Stewart Fleming in Washington

GOVERNOR Michael Dukakis called yesterday for the US to respond positively to the challenge presented by Soviet leader Mikhail Gorbachev's new initiatives and charged Vice-President George Bush with refusing to recognise that US/Soviet relations are in flux and with yielding the arms control initiative to Moscow.

Mr Dukakis has focused on foreign policy in part to defend himself against charges levelled by the Bush campaign that he is naive in that arena, a man who lacks the experience to deal toughly with the real world, and against slurs on his patriotism designed to suggest he would not stand up firmly for US interests.

Poison enters the froth of US campaign

Stewart Fleming considers who started the mudslinging in the US election tactics

THE US presidential election campaign is increasingly dominated by increasingly vicious mudslinging and their determination that their candidate dominate the television news headlines.

None of the drug trafficking, or was it the Boko team and President Ronald Reagan by encouraging the press last month to pick up on unsubstantiated reports that Mr Dukakis had been treated for depression and was, in Mr Reagan's words, an invalid.

foreign policy task force, calling for America to maintain its military strength and seeking to "blame America firsters" who are not prepared either to fund adequately the US military or to use its power to further, as so many conservatives see it, the American crusade to put the world right.

Wörner warns Nato on burden-sharing debate

By Our Foreign Staff

MR MANFRED Wörner, Nato's new secretary-general, yesterday warned the US and European allies not to let their debate on burden-sharing degenerate into a "transatlantic slanging match".

Attack on Argentine inflation renewed

By Gary Mead in Buenos Aires

ARGENTINA'S ruling Radical Party Government launched a fresh attack on monthly inflation rates of more than 27 per cent yesterday.

Chile opposition TV programme banned

By Mary Helen Spooner in Santiago

CHILEAN GOVERNMENT television has banned a short programme by opposition groups calling for a "no" vote against General Augusto Pinochet, in the October 5 plebiscite.

Judge in officer's case rebuffs Alfonsín

By Gary Mead

ARGENTINA'S President Raúl Alfonsín has been rebuffed by a civilian judge's decision to permit the continuation of a legal action brought by an army officer.

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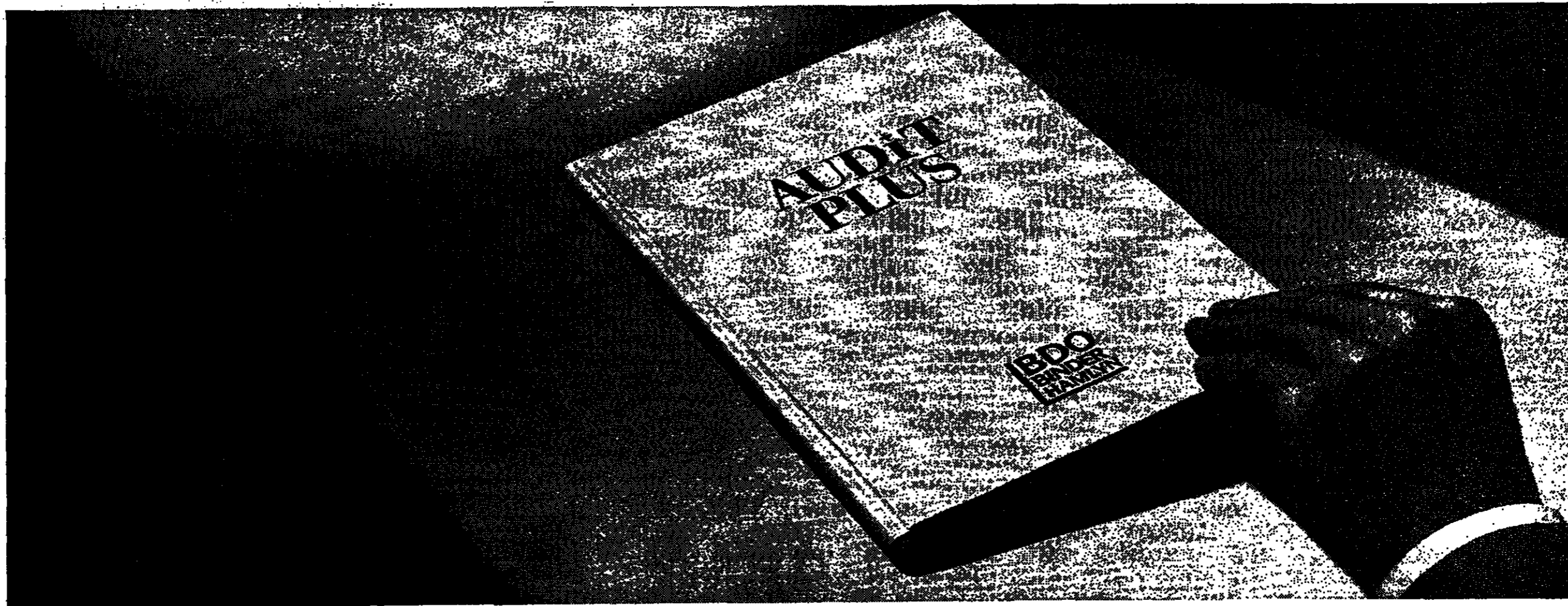
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We don't stop at the bottom line.

WORLD TRADE NEWS

US rice millers seek entry to Japan

By Peter Montagnon in London and Ian Rodger in Tokyo

THE US Rice Millers Association is to file a formal unfair trading complaint today with the US Trade Representative in Washington, seeking action to open Japan's market to rice imports.

political sensitivity. A spokesman for the US Trade Representative in Washington yesterday declined to speculate on how the Reagan Administration will react to the complaint, but it will have 45 days from today to decide whether to take it up.

be considered by the US now, are to reject the petition on the grounds that the Uruguay Round will be subject to an official mid-term review in Montreal this December, or to take the matter to the General Agreement on Tariffs and Trade in Geneva. Both would avoid any short-run threat of sanctions.

Soviet exports may face dumping action

By Quentin Peel in Moscow

SOVIET EXPORTERS eager to take advantage of new freedom to conclude their own sales contracts could be hit by a rash of anti-dumping actions in the European Community and other markets, a leading Soviet trade analyst has warned.

Tokyo cash buys a home among equivocal Thais

A RECENT editorial by Trisoon, popular Bangkok columnist, warned Thai companies against "treacherous collaboration" with Japanese attempts to buy all the country's sea-side land, saying that one day "Thais may have no land to reside on."

Tokyo seeks special treatment from Gatt

By William Dullforce in Geneva

JAPAN, the world's largest net food importer, has asked for special treatment for rice in the reform of agricultural trade under negotiation in the General Agreement on Tariffs and Trade.

was rejected by Australia, Argentina and Thailand, all members of the Cairns group. Tokyo's proposal was a non-starter, going against the tide of liberalisation, Mr Alan Oxley, the Australian ambassador to Gatt, said.

market to imports. Technically, the Japanese paper called for a redefinition of Gatt's Article XI, which bans quantitative restrictions on imports, in order to allow exceptions to be made under unspecified rigorous conditions for basic foodstuffs.

Indeed, the first sign of a change in Soviet attitudes towards the Community - leading finally to diplomatic recognition last June - was when a Soviet lawyer appeared to contest an anti-dumping case in the European Court of Justice in 1986.

audio tapes face similar opposition. Wages, Japanese companies lure away staff from Thai companies with higher wages. They have created a shortage of engineers and skilled workers, some Thai companies say.

Advertisement for DALGETY featuring the headline 'During a period of transition, we are very pleased to announce our highest ever earnings.' and a table of financial performance for June 1988 and June 1987.

Japanese money is flowing into Thailand despite fears of a return of xenophobic feeling, reports Richard Gourlay in Bangkok

The BIC has noted these signs but is still actively promoting Japanese investments, saying "we do not want to lose the momentum." The implicit resentment of the Japanese is in any case dulled by Thai participation, through joint ventures, in 80 per cent of Japanese investments, according to Jetro.

All Philippines drugs to carry generic names

By Richard Gourlay in Manila

Philippine Senator Aquino yesterday signed a bill requiring the use of generic names on all drugs sold in the Philippines against broad opposition from many manufacturers and some doctors.

Italy moves to accept Karin B toxic waste

By John Wyles in Rome

THE ITALIAN government yesterday proposed that it might accept Karin B toxic waste at the port of Livorno as part of the much-traded and much-rejected merchant ship Karin B, with its cargo of 2,100 tonnes of waste.

UK NEWS

Post workers trickle back

By Charles Leadbeater, Labour Correspondent

ONLY a small proportion of the 100,000 postal staff who have been on strike for the last 13 days returned to work yesterday. The Post Office and leaders of the Union of Communication Workers agreed to end the dispute on Monday. Only some 4,000 staff had returned to work yesterday evening at 47 small offices. Of the 82 big mechanised sorting offices, which form the core of the corporation's network, only staff at three - Tunbridge Wells in Kent, Shrewsbury and Brighton - had returned to work.

The Post Office said that it expected more staff to return on the night shift, including workers as three other mechanised sorting offices at Southampton, Portsmouth and

Newcastle. Despite the sluggish return to work UCUW leaders and Post Office officials said there were no signs that the national agreement was foundering on local resistance. The Post Office said that it still expected the first deliveries to be made by the end of the week, and postal services to return to normal within two weeks.

Managers have to agree with local union branches measures to clear the backlog of 180m unsorted letters and parcels, which has built up through the dispute over the corporation's decision to pay special recruitment supplements in the south-east.

The most contentious issue will be the mix of extra overtime and increased use of

casual workers which is used to clear the backlog. Talks in Glasgow broke down over the use of casual staff. But the UCUW said as yet no other local talks had broken down.

The progress of the return to work is likely to hinge on votes today at the main sorting offices at London, Liverpool, Manchester and Birmingham. The return to work elsewhere in the country would be significantly slowed, should these offices remain on strike.

Local union officials said they could not guarantee that London offices would return to work today.

Mr Bill Cockburn, the Royal Mail's managing director, called on the union's national leadership to ensure local officials stood by the agreement.

Fake goods 'represent up to 6% of world trade'

By Richard Donkin

COUNTERFEITING is a worldwide practice which may represent between 3 per cent and 6 per cent of world trade, an expert in the subject told a Confederation of British Industry conference in London yesterday.

Mr Archie Wordsell, secretary of the Anti-Counterfeiting Group, a trade association with 70 member companies, said UK motor parts manufacturers alone estimated that counterfeiting cost them £200m a year in lost exports.

In some cases, she said, counterfeiting had proved disastrous. East African coffee farmers had lost most of their crop worth £20m, a few years ago after using an ineffective counterfeit fungicide.

Ms Wordsell said Swiss watch manufacturers estimated that 10m fake "Swiss" watches were made every year, costing their industry \$600m (£220m).

She said: "One clothing manufacturer I know of says that sales of counterfeit goods of their brand exceed their own sales by 100 per cent."

The clandestine nature of the industry, Ms Wordsell said, meant that accurate statistics were not available, but counterfeiting in some Third World countries had reached endemic proportions.

Showing a counterfeit pack of contraceptive pills, on sale in Nigeria, she said: "We estimate that 80 per cent of the market in drugs in Nigeria is made up of counterfeit or adulterated products."

Parts for heart pacemakers and antibiotics made of ground turpentine were other examples of counterfeit products discovered worldwide, she said, although none had yet turned up in Britain.

Ms Wordsell said British companies could do far more to protect their products.

She advised companies worried that their product could be copied to register their trademark in a country, such as Taiwan, which was known to have a prolific counterfeit industry. Manufacturers could introduce better security labelling on products and alert staff to the potential for counterfeiting.

SAS to 'take no chances' in Gibraltar

By Joseph Garcia in Gibraltar

THE overriding consideration in the operation which ended in the deaths of three IRA terrorists in Gibraltar last March was to protect life, a member of the SAS elite military task force told an inquest into the deaths yesterday.

Identified only as Soldier E, he said he was the tactical commander of the SAS soldiers on the ground.

He stressed that the rules of engagement and the principle of minimum force had been made clear to his men, who were identified only as Soldiers A to D.

The packed coroner's court in Gibraltar was told Soldier E had instructed his men to issue a warning to the terrorists - Mr Sean Savage, Mr Daniel McCann and Miss Mairead Farrell - but that this could be dispensed with if it was likely to jeopardise the operation. Their mission was to arrest them but to take no chances.

He denied suggestions by Mr Patrick McGrory, the lawyer acting for the families of the terrorists, that the operation was based on guesswork.

He had told his men the ter-

Sunday Times reporters face contempt charge

Four journalists for the Sunday Times, Britain's biggest circulation broadsheet Sunday paper, have been ordered to appear before the Gibraltar Supreme Court for alleged contempt in their reporting of the inquest into the shooting by the SAS of three IRA terrorists in March, writes Richard Evans.

The summons, served on one of the reporters in Gibraltar yesterday, orders the four to appear before the Supreme

Court on September 23 or shortly afterwards.

Mr Roy Greenhalgh, Sunday Times associate editor, said the newspaper would contest the allegations. He believed it had adhered to warnings given by Mr Felix Pizzarello, the coroner, that the media should beware of possible contempt.

The alleged contempt covers two aspects of the coverage last Sunday on the front page and in an extended feature inside. One was a prediction of

the detailed evidence to be given to the court by Mr Alan Faraday, a Defence Ministry explosives expert, and the other was the comments made outside the court after giving evidence by Professor Alan Watson, the senior crown pathologist.

The four are Richard Ellis, James Adams, defence correspondent, Jon Craig, home affairs correspondent, and Andrew Hogg, head of the insight investigative team.

Rivals set to tie up valuable packets of postal business

Alice Rawsthorn counts the strike's cost to the Post Office

AS THE postal workers struggle to clear the mountain of undelivered mail and to resume a normal service, the Post Office must assess the long-term impact of the postal strike on its business.

In the last national stoppage of 1971 the courier companies, telefax networks and even motorcycle messenger services were in their infancy. This time an infrastructure of couriers and messengers was available to deliver the letters and parcels usually entrusted to the Post Office.

Letters were sent by fax or telephone. Parcels were bundled off to private couriers. The motorcycle messengers and bicycle companies enjoyed a bonanza of extra business.

The critical question for the Post Office is how much of this business can it recover? And how much has been lost?

The Post Office is confident that it can regain its standard letter business. The cost of sending letters by fax or courier is so high that most customers will return to the Royal Mail as soon as normal deliveries are resumed.

Delapost, the premium letter service, may be more vulnerable. Many courier companies offer similar services. Interlink expects to retain 40 per cent of the 14,000 extra Delapost-style

deliveries generated by the strike. The British Document Exchange increased its turnover by 40 per cent. All its "strikebound" customers signed year-long contracts.

The Post Office may also lose some of its £165m business with the direct mail industry. Direct mail has exploded in the 1980s and one in 10 letters delivered by the Post Office is now a direct mail item.

When the postal system came to a standstill, the direct mail industry collapsed. The sheer volume of mail sheets meant that there was no short-term alternative for the direct mail companies to turn to.

The industry is now considering longer term alternatives. Mr Brian King, managing director of Bellman Direct, one of the largest companies, is lobbying for an industry-wide feasibility study into the cost of establishing a bulk mailing system.

Yet the most vulnerable part of the Post Office is its £253m parcels business. The "economy" parcels will return to the Post Office, but it may be more difficult to recover premium parcels from the courier companies. The Post Office's new SuperService, a special business service introduced in

April, has already "suffered very badly."

All the courier companies experienced a boom in demand during the strike. The volume of parcels handled by Securicor rose by 40 per cent. Some of its "new" customers have already signed long-term contracts.

Other Post Office customers are now reviewing their distribution arrangements. Mr Michael Pickard, chief executive of Sears, the retail group, says that it is assessing alternative forms of distribution for Freemans, its mail order business. One of the most serious consequences of the 1971 strike was the loss of mail order contracts when companies set up their own distribution divisions.

The parcels division has hitherto been among the most profitable areas of activity for the Post Office. Last year it made a return on sales of 7.4 per cent, compared with the 5.8 per cent for the Post Office as a whole.

As Mr Bill Cockburn, managing director of Royal Mail Letters, admits, the disruption of the last fortnight has dealt "a considerable knock" to customers' confidence. The Post Office must now restore lost confidence and repair the financial - and political - damage caused by the strike.

£300m bid to revive Plymouth docks

By Anthony Morston

A £200m scheme to bring new life to Plymouth's industrial waterfront has been proposed by DML, the company which won a seven-year contract in 1987 to manage the city's Devonport dockyard, and Avatar, the property-development company.

Mr Mike Leese, managing director of DML, said in Plymouth yesterday that the scheme could create up to 3,500 jobs in a city which has seen a serious decline in its dockyard workforce.

The Devonport yard has lost 4,800 jobs since 1985 and is expected to lose a further 3,000 by 1990, bringing its numbers down from 13,500 to 6,100.

"A co-ordinated public and private sector approach to regenerating an entire waterfront area of Plymouth will greatly benefit the local economy, creating employment and projecting Plymouth on to the national stage as a major centre for industry, commerce and tourism," Mr Leese said.

Mr Martin Winch, managing

director of Avatar, added the project "would become a blueprint example of the public and private sector working together to achieve real improvements for the local economy."

The Ministry of Defence, which owns a large part of the site, has given a cautious welcome to the proposal which will go before the city council at the end of this month. Leaders of both the majority Conservative and opposition Labour parties have welcomed the suggestions in principle.

A new company would be set up to undertake the development, the first major scheme in the city since it was rebuilt after severe bombing in the Second World War. DML, Avatar and the city council would have shares in the company.

The redevelopment is the first major proposal for the future of the sprawling dockyard since DML took over.

Public and private housing and a range of environmental improvements are proposed.

Timber levy urged to aid rain forests

By John Hunt

THE UK Timber Trade Federation has proposed a surcharge on tropical timber imported into Britain to raise \$30m a year to help save the rain forests in the producing countries.

The federation's Dutch counterpart, the Nederlandse Houtbond, has made a similar proposal. It is hoped other European Community countries and timber-importing nations will follow suit.

The decision was taken unanimously at a special meeting of the 600-strong federation on Monday. It will now approach the British Government to ask it to collect the surcharge for the timber trade.

There is no doubt that such a proposal would mean a rise in the price of tropical timber imported from such countries as the Philippines, Indonesia, Malaysia and Brazil. The federation will let individual companies decide whether to pass on the surcharge to the consumer.

So far, the precise percentage of the charge has not been

decided. In 1987 tropical wood accounted for £373m of Britain's imports. It is made up of sawn timber, plywood and veneers. That compares with the non-tropical timbers which accounted for £1.4bn in 1987.

The scheme comes in response to criticism of the depletion of the world's tropical rain forests.

Continual reduction in the rain forest is believed to increase the danger of the "greenhouse" effect - the over-heating of the world's atmosphere. It is also thought timber cutting has contributed to flooding in Bangladesh.

Friends of the Earth, the conservation organisation, last night welcomed it as an important victory in its campaign.

Mr Simon Counsell, the organisation's rain forest campaigner, said: "It should be seen as an insurance policy by the trade against the disappearance of an essential raw commodity and the invaluable environmental services provided by tropical forests."



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UK NEWS

Colleges offered company status under reform plan

By David Thomas, Education Correspondent

THE Government is to launch a campaign to persuade businessmen to help run 600 further education colleges in England, it was announced yesterday. The plan could include corporate status for some colleges.

Ministers will also give much greater financial and management responsibilities to the colleges which provide work-oriented training for students of 16 years old or more.

The Department of Education and Science (DES) believes some of the colleges, which have an average annual budget of £2.5m each, will take corporate status by registering as companies under the Companies Act. This will give them considerable freedom to enter into contracts and, in theory, to set their own pay rates for staff.

Further education colleges take in about 1.7m students a year, have an annual budget of about £1bn and employ more than 50,000 staff.

Under the terms of the Education Reform Act, polytechnics and larger higher education colleges are to become independent institutions, leaving the smaller further education colleges under local authority control.

The DES yesterday issued local authorities with two circulars laying down guidelines about how these smaller colleges are to be run.

The colleges' governing bodies will have to be smaller than at present and about half their members must represent employers. The Government believes this will attract high calibre local businessmen to

The Confederation of British Industry, the employers' organisation, is planning an initiative to help ease teacher shortages, which it believes could threaten Government educational reforms.

The organisation's education and training committee is to consider a paper tomorrow outlining possible action to ease specific shortages. Such action might include pushing for greater pay differentiation on a regional and subject basis - a proposal which would be controversial with teachers.

Moves might also include initiatives by industrial companies to help schools. This may include the employment of workers in technical subjects affected by shortages to teach; help for early retirees to retrain as teachers; and support for efforts to attract those in mid-career into teaching.

Latest figures for applicants to teacher training courses this year show a fall of 7.3 per cent in the number of students wanting to become secondary teachers compared with the same period last year.

They will have to operate within the national pay agreements for college lecturers and other local authority staff, but they will have some discretion over grading and starting salaries.

However, the DES is suggesting that some colleges, with their local authority's agreement, could form themselves into companies. This would not only make it easier for them to enter into contracts, but it could, in time, allow some to set their own pay rates for lecturers in shortage subjects.

Local authorities must submit proposals embodying these guidelines to the Government for approval. The new arrangements are intended to come into force by April 1990 outside inner London, with inner London following two years later.

IBM, world's biggest computer company, has announced a software package tailor-made for schools.

Colleges will be encouraged to run their own bank accounts, but they will not be allowed to have an overdraft. They will have to operate within the national pay agreements for college lecturers and other local authority staff, but they will have some discretion over grading and starting salaries.

Reuter may shed jobs in savings programme

By Raymond Snoddy

REUTER, the international news and information group, could shed hundreds of jobs in a cost-cutting programme.

Management of the London-based organisation completed a review of all operations in the last few days. Reuter, which employs about 10,000 people, has grown substantially over the past decade in financial information and services.

Mr Glen Reifreth, Reuter's managing director and chief executive, announced the review in July. He said it was prompted by a fall in the company's revenue growth rate because of slower trading room system sales after the stock market crash last October and the strength of sterling.

Reuter said yesterday it did not know how many jobs would be lost because most would come from attrition, redeployment and voluntary redundancy.

Rationalisation will be confined mainly to the relocation of virtually all the operations of Reuter's IDR subsidiary from Long Island, New York, to Chicago. IDR makes components for video terminals and employs about 200 people.

The other areas affected include marketing, development, editorial and administration. There will be what Reuter describes as a few editorial redundancies in London.

None of the 112 bureaux around the world would be closed and the company would not withdraw from any of its present business activities.

Poll tax rebates outlined for 1.2m Scots

By James Buxton, Scottish Correspondent

ALMOST a third of Scottish adults will not have to pay the community charge in full, the Government said yesterday. More than half the country's pensioners will be entitled to a rebate.

Mr Malcolm Rifkind, the Scottish Secretary, yesterday presented details of the rebate system for the charge, or poll tax, which comes into force in Scotland next April - a year ahead of the rest of Britain. He did so on a day of protest

against the poll tax by Scottish trade unions, and in a week which sees important votes by opposition parties on whether to support non-payment of the tax.

The poll tax will replace the current rates charged to home owners for community services. The community charge will be a flat rate applied to those aged 18 or over, with closely defined exceptions.

Mr Rifkind said official estimates suggested that 1.2m of

the 1.8m adults in Scotland would be entitled to some form of rebate.

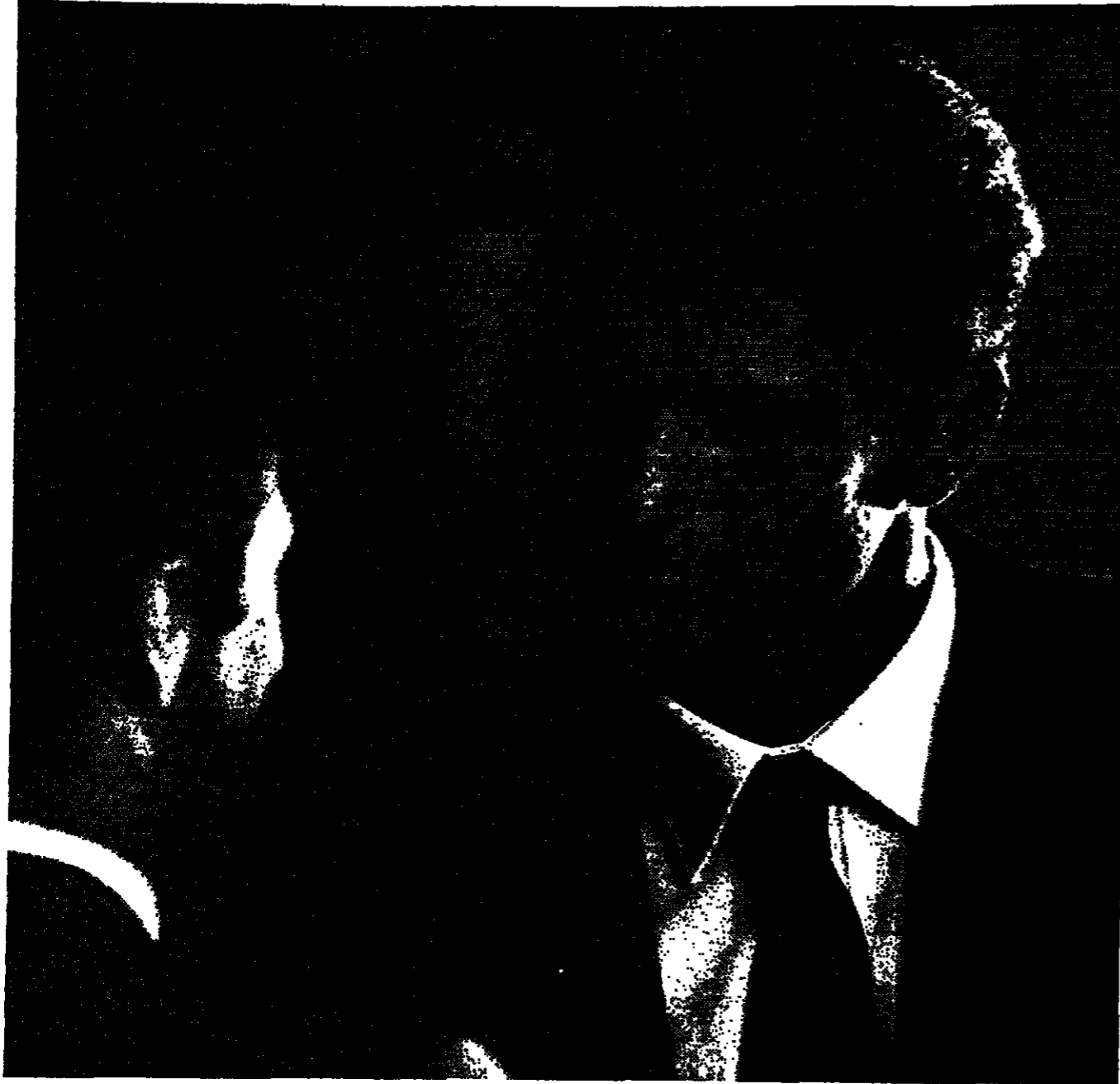
All people on income support would pay the lowest 20 per cent level of the charge. Ability to pay was a fundamental characteristic of the community charge system, he said.

In Glasgow yesterday traffic was briefly disrupted by an 11-minute demonstration timed for 11 am as part of the Scottish Trades Union Congress's

protest against the poll tax.

There were small demonstrations in Edinburgh and other cities, and production was interrupted at several factories.

A Mori opinion poll in The Scotsman newspaper showed that 70 per cent of Scots surveyed disapproved of the community charge, 5 per cent fewer than in a similar poll in March. About 32 per cent of Conservative voters said they disapproved.



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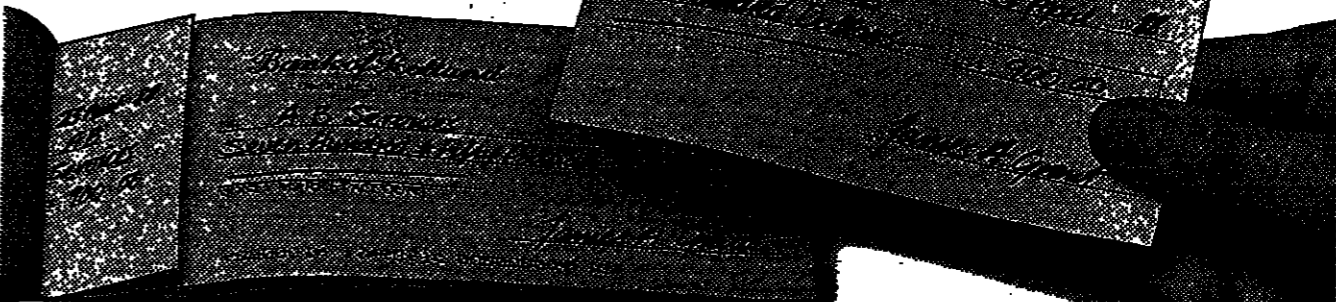
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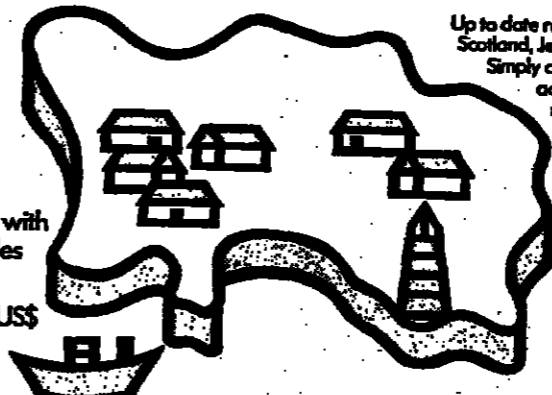
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How graduates fared

By Michael Dixon

WITH the passing of the Education Reform Act, United Kingdom universities will be under unprecedented pressure to show results for their grants of taxpayers' money. That inevitably sharpens the point of ranking the institutions according to the performance of their new UK-domiciled bachelor-level graduates in the employment market.

Alas, while the table does its best with the data obtainable to give a worthwhile measure, it is a very crude one. The main reason is that it makes no allowance for variances in the mix of courses taught by the different institutions. So the ranking gives an in-built advantage to those with a high proportion of their students taking work-related subjects such as engineering.

The Jobs column would of course prefer to adjust for variances in subject-mix to make the ranking fairer. What's more, the detailed information needed to do the adjusting is stored in the Universities Statistical Record. At present, however, it is not available for public scrutiny. Hence the table is as good a measure as is practicable for the moment, although I hope to do better in future years. In any case, since the universities themselves ultimately decide what mix of studies to provide, it can hardly be said that any handicap they start with in the ranking has been thrust on them entirely from outside.

The graduates on whom it is based are those deemed to have their home in the UK who gained bachelor's degrees in the summer of 1977. The total number of them coming from each of the largely state financed campus universities is shown by the first column of figures.

Next we have an enigma. By December 31 last year, when the institutions compiled their reports on what their human products were doing, some of them could no longer be traced. The percentages of the totals whose whereabouts were simply unknown - which vary markedly - are shown by the second column of figures.

Then come the numbers whose whereabouts could be traced. The percentages of the totals whose whereabouts were simply unknown - which vary markedly - are shown by the second column of figures.

They are, in descending order of success, Kent, Sussex, Southampton, York, Aston, St Andrews, Heriot-Watt, Leeds, Strathclyde, Hull, Aberdeen, Loughborough, Ulster, Keele, London, Oxford, Reading, Edinburgh, Liverpool, Brunel and Glasgow.

Some of others also had better figures than in 1986. But their graduates still apparently failed to take advantage of a greater supply of long-term jobs. Among the universities whose performance worsened between the two years, the wooden spoon goes clearly to Warwick.

As may be seen from the "overall" figures at the bottom, last year's graduates as a whole did rather better by the "short-term or still seeking job" measure than did their predecessors 12 months before. Of the 45 institutions covered by the ranking, 25 registered individual improvements which were better than the overall record.

As may be seen from the "overall" figures at the bottom, last year's graduates as a whole did rather better by the "short-term or still seeking job" measure than did their predecessors 12 months before. Of the 45 institutions covered by the ranking, 25 registered individual improvements which were better than the overall record.

UNIVERSITY	Total of new UK graduates produced in 1987	% who could not be traced as at 31/12/87	No. whose whereabouts were known as at 31/12/87	% of those of known destination who were in Long-term jobs	Further study or still seeking job - 1987	Short-term work or still seeking job - 1987	(Short-term or still seeking - 1986)
Brunel	457	4.1	457	76.7	18.5	6.8	(7.4)
Durham	1,328	13.7	1,179	82.7	29.3	8.0	(9.8)
Aston	741	10.5	665	85.5	6.8	8.1	(10.6)
Strathclyde	1,349	5.0	1,285	70.5	21.0	9.5	(10.4)
City of London	541	4.8	516	84.1	6.4	8.5	(9.0)
Dundee	816	3.6	787	80.0	30.4	8.6	(9.8)
Bath	726	2.8	717	75.2	14.2	8.6	(10.2)
St Andrews	725	8.1	667	86.7	41.2	10.1	(12.8)
Oxford	2,803	10.3	2,525	84.5	35.3	10.2	(11.8)
Queen's, Belfast	1,408	4.2	1,358	84.1	35.6	10.3	(12.8)
Aberdeen	1,006	5.5	958	87.7	31.8	10.5	(14.0)
Southampton	1,406	16.7	1,237	87.5	21.9	10.6	(10.8)
Newcastle	1,727	12.1	1,616	88.2	20.1	10.8	(13.5)
Heriot-Watt	875	8.4	818	88.1	20.1	10.7	(17.7)
Kent	861	14.6	759	93.7	18.2	11.6	(9.5)
UMIST*	699	3.7	669	78.2	21.3	11.6	(12.6)
Glasgow	2,159	2.9	2,104	87.3	11.9	12.1	(10.5)
Bradford	941	5.4	890	77.0	10.9	12.1	(12.2)
Cambridge	2,713	8.9	2,444	83.8	34.2	12.2	(16.0)
York	583	6.0	541	87.2	30.6	12.2	(12.0)
Salford	708	11.8	628	72.4	15.3	12.3	(14.8)
Loughborough	1,079	3.5	1,040	73.9	13.7	12.4	(14.8)
Reading	1,232	6.2	1,174	88.2	18.1	12.7	(14.8)
London	8,940	21.8	6,812	84.8	22.5	12.7	(11.7)
Sheffield	548	4.2	525	71.9	14.4	12.7	(15.9)
Hull	1,206	8.4	1,107	80.8	28.4	13.0	(18.3)
Keele	571	6.3	536	87.2	28.7	13.1	(18.7)
Lancaster	1,080	11.8	943	82.2	24.7	13.1	(14.3)
Liverpool	1,009	10.0	900	89.9	28.8	13.3	(22.1)
Sussex	925	11.8	818	87.1	29.1	13.8	(15.6)
Birmingham	2,093	14.8	1,794	81.3	24.8	13.9	(18.1)
Edinburgh	1,899	17.3	1,610	88.6	25.9	14.3	(18.1)
Sheffield Hallam	1,814	7.4	1,699	81.8	25.5	14.7	(11.8)
Warwick	1,571	6.7	1,462	84.7	30.3	14.7	(19.4)
Nottingham	1,728	5.1	1,641	87.3	23.6	15.1	(14.2)
Manchester	2,897	6.7	2,710	83.1	21.8	15.1	(15.2)
Wales	4,422	4.9	4,206	84.4	30.5	15.1	(16.7)
Leeds	2,339	5.7	2,209	82.2	22.8	15.2	(16.7)
Bristol	1,648	4.8	1,574	81.4	21.9	15.6	(18.2)
Sheffield	1,891	9.5	1,699	89.8	21.3	16.6	(18.1)
Exeter	1,237	4.4	1,182	88.6	23.2	17.0	(18.1)
Essex	588	12.8	498	82.0	30.5	17.5	(23.1)
Ulster	1,505	16.8	1,285	82.8	17.5	18.7	(19.8)
Stirling	549	3.6	529	83.1	18.1	20.8	(21.5)
East Anglia	983	11.8	862	83.5	22.1	24.3	(21.5)
OVERALL	68,730	10.0	60,042	82.2	24.6	13.2	(14.3)

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Personnel Officer

Competitive salary, early review and comprehensive benefits

Our client, the international capital markets arm of The Sumitomo Bank, Limited, seeks an experienced personnel professional to run the day-to-day personnel function.

At Assistant Manager level, reporting directly to an Executive Director, this high profile role which involves considerable exposure to top management, is wide ranging but with particular emphasis on recruitment, payroll preparation, benefits administration and staff liaison.

The ideal candidate will be a graduate, aged 28 to 33, holding the IPM qualification and with a minimum of three to four years experience of personnel administration in a banking environment. This challenging position will appeal to a highly motivated individual with an outgoing, self-confident personality seeking a challenging position within an expanding and progressive organisation.

Prospects for promotion are excellent, with the opportunity to progress to Manager and assume additional responsibility within one to two years.

Contact Vanessa Nokes on 01-623 1266.
LONDON HONG KONG MIDDLE EAST SINGAPORE SYDNEY

Jonathan Wren
Recruitment Consultants
No.1 New Street, (off Bishopsgate), London EC2M 4TP.
Telephone: 01-623 1266. Fax: 01-626 5258.

ASSISTANT GLOBAL CUSTODY OPERATIONS MANAGER £Neg.

Boston Safe Deposit and Trust Company is one of the top 20 banks in the U.S. with balance sheet assets in excess of \$20 billion worldwide.

In the U.K. we are established in a number of key financial sectors and operate a highly successful Global Custody Department.

To add strength to the management structure we are looking for an individual to work with our Operations Manager and assist in the general smooth running of the department. The successful applicant should have at least 5 years experience in a similar position and be well versed in the intricacies of a global custody operation.

This position comes with first-class banking benefits including non-contributory pension scheme, reduced rate mortgage and private health cover.

Please write enclosing latest C.V. to Valerie Borley, Boston Safe Deposit and Trust Company, Three Quays, Tower Hill, London EC3R 6DS (quoting reference 057).

THE BOSTON COMPANY
Boston Safe Deposit and Trust Company

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CAREER ASSESSMENT

Expert guidance for all ages, practical help on career planning. Highly confidential. Contact:

- CAREER ANALYSTS
- 20 Grosvenor Place, W1
- Tel: 935 5432 (24 hrs)

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Commaught Mainland
32 South Row, London W1X 1LQ, 22 Suffolk Street, Birmingham B1 1LS, 01-734 3879, 021-643 2824

Handwritten note: Job, no title



BARCLAYS de ZOETE WEDD

SENIOR GOVERNMENT BOND SALESMEN

LONDON AND TOKYO

Barclays de Zoete Wedd, one of the leading UK based international investment banking groups, is seeking to recruit successful bond salesmen for its expanding Fixed Income teams in London and Tokyo.

Openings exist for:

- * Tokyo based salesmen to service - Japanese institutions - other Pacific Region clients.
- * London based salesmen to service - Japanese institutional clients both in Europe and London.

Applications are invited from ambitious, team orientated candidates with 3 years' relevant experience. For the Tokyo based appointments, a Gilt background would be preferred, as would a knowledge of the Japanese language for salesmen covering Japanese institutions.

These rewarding positions offer exciting and challenging opportunities and excellent career prospects. Highly competitive remuneration packages and attractive benefits would be available to the right candidates.

Applicants should apply in writing with curriculum vitae to: Ann Moheni, Ebbgate House, 2 Swan Lane, London EC4R 3TS, tel. 01-623 2323.

THE INVESTMENT BANKING ARM OF THE BARCLAYS GROUP

ANL Australian National Line

Managing Director

Australian National Line is a major transport enterprise and Australia's principal liner shipping and container terminal business. It was established as a statutory authority in 1956, and after a long period of difficult but successful rationalisation it will shortly be reconstructed as a public company wholly-owned by the Commonwealth Government.

Until now the position of Managing Director has been a 5-year term appointment made by the Governor-General. This expires in January 1989. New legislation provides for the appointment of a Managing Director responsible to the Commission for the corporation's overall management and profitable operation. The terms and conditions of appointment, including remuneration, will be determined by the Commission. The position is being advertised nationally and internationally. All applications will be treated strictly on their merits. The present incumbent is eligible to apply.

ANL operates a container and bulk shipping fleet of 13 vessels, together with multi-user major container terminals in Sydney and Melbourne, smaller facilities in other Australian ports and ancillary land transport services. In addition to its extensive agency business in Australia, it has representative offices in London, Singapore, Hong Kong and Tokyo. It has a total of 2400 employees in Australia, at sea and abroad. Total assets are valued at over \$4300 million and annual revenue is \$4500 million. All major divisions operate in profit.

The Commission is determined that ANL's business should continue to grow by capitalising on a number of challenging commercial opportunities. A mature, outstanding chief executive with drive, enthusiasm, strong interpersonal skills and leadership is sought to take this business into the 1990s and beyond. As the successful applicant will be appointed to the Board, a strong record of management experience in large, capital-intensive businesses will be essential, as will a sound record in employee and industrial relations. Candidates should preferably be experienced in international trade, demonstrate high levels of conceptual and analytical ability and be capable of developing the strategic thrust of the organisation.

Written applications should be received by Friday, 14th October, will be treated in the strictest confidence and should be addressed to Mr. I. D. Corbridge, Chairman King Woburn & Co., 44th Floor, 525 Collins Street, Melbourne, 3000, Australia.

Major International Asset Management Organisation

Fund Manager

As part of its more general expansion plans, the asset management subsidiary of a prominent and well-established international insurance group wishes to recruit a Fund Manager.

This attractive role will involve actively managing a fully mixed fund (currently standing at £175m), approximately 70% of which is in UK and international equities. In addition the successful candidate will be a member of a team responsible for corporate client presentations, complementing an existing marketing effort.

Preference will be given to those who are able to take an independent line and contribute new ideas whilst functioning in a strong team environment. Applicants should also be in their early to mid 30s and have a minimum of 3-4 years' prior experience of managing similar funds.

The salary will be fully negotiable and include a generous benefits package.

Interested candidates should write to Andrew Stewart at the address below enclosing a comprehensive C.V. or telephone him on 01-248 3653 (01-385 9616 evenings/weekends), or use our confidential fax line on 01-248 2814. All applications will be treated in the strictest confidence.



76, Watling Street, London EC4M 9BJ

Tel: 01-248 3653/01-489 8070

ASSOCIATES
CONSULTANTS IN RECRUITMENT

Are you experienced in

EURO EQUITIES RESEARCH/SALES?

then our business plan can include your career development

CITY

Part of Credit Lyonnais since November last year, CL-Alexanders Laing & Cruickshank (CL-AL&C) has been designated as the base from which Euro-equities will be developed as part of a global strategy to extend the Group's presence in Capital Markets, through a growing worldwide network of specialised financial branches and subsidiaries.

CL-AL&C's strength in UK equities and Credit Lyonnais' global coverage in Equities together provide a solid foundation for the building of an internationally-minded team to research and sell both UK and European equities into Europe, and European equities into the UK.

To achieve our objectives in Europe we need people in:

RESEARCH

You should have a minimum of two years' experience in German, German/Swiss or Spanish equities.

SALES

Here you will need at least two to three years' experience of selling UK and European equities or equity-based products into Europe, or European equities into the UK.

As well as the normal range of benefits offered by a large, international financial institution, salaries will be fully competitive and will certainly be attractive to more experienced candidates whom we are particularly keen to recruit.

Please write with full c.v. to: Liz Knott, Manager - Personnel Services, CL-Alexanders Laing & Cruickshank, Bucklersbury House, 11 Walbrook, London EC4N 8EL. Tel: 01-236 0667.

CL-Alexanders Laing & Cruickshank



In April 1989, the Polytechnic is due to be established as an independent corporate body outside the control of the Local Authority. It will own the land, buildings and equipment, and employ the staff. As part of our preparations for this major change, we are seeking to appoint an experienced finance professional to fill the new post of

HEAD OF FINANCE

£22,000-£25,347 p.a. (Pay Award Pending)

You will need to be a qualified accountant, with the background and experience which will enable you to provide a high-level comprehensive financial management service to a developing organisation with an annual turnover of about £30m and extensive City-centre capital assets. As well as ensuring that all financial affairs of the Polytechnic are properly planned, managed and controlled, you will provide the senior professional advice in both strategic and operational terms necessary for the maximisation and effective utilisation of the Polytechnic's financial resources.

If you are also energetic and entrepreneurial, able to manage and lead a group of committed staff, keen to respond to the changing role and needs of a Higher Education Institution, and motivated to make an impact on a progressive and exciting organisation, then this post will be of interest to you and you will be of interest to us.

As well as a competitive salary we can offer relocation expenses up to £3,050 where appropriate. Ref. No. CA104/88

Details and application form available from Personnel Officer. (Please enclose a self-addressed envelope). Telephone 0203 630382 or 630445. Closing date: Friday, 30th September, 1988.

We welcome applications from women and men regardless of disability, race or marital status.



Coventry Polytechnic
Priory Street
Coventry CV1 5FB
Tel: (0203) 631313

AUSTRALIAN EQUITY SALESMAN/ANALYST

The candidate must have a strong financial background, with at least 2 years experience in Australian Equity Markets. Preferable if member of the Securities Institute of Australia. Strong analytical and financial skills essential.

Please contact Nicholas Hooper at Guy Robinson & Partners, 19 Grosvenor Street, London, W1X 9PD. 01 493 2430

STOCKBROKING

Waters Lunniss, the successful Norwich Stockbroker, will shortly become an important subsidiary of Norwich and Peterborough, the East of England's premier building society.

This will give Waters Lunniss an outstanding opportunity to expand their business, creating exciting opportunities for new staff at their head office in Norwich and selected branches across East Anglia.

Applications are invited from Members, Registered Representatives or those close to qualification who are experienced in private client management, either discretionary or non-discretionary.

Your own business is not essential, but a clear desire to participate and contribute fully to the potential of this unique stockbroking opportunity must be demonstrated.

Career prospects are excellent, with income packages reflecting experience, ability and performance.

If you are interested in pursuing these opportunities, please contact John Lunniss on Norwich (0603) 622265 or write to him at:

WATERS LUNNISS

Waters Lunniss & Co. Ltd., 5 Queen Street, Norwich, Norfolk NR2 4SG. Telephone: Norwich (0603) 622265.

All applications will be treated in the strictest confidence. Waters Lunniss are Members of the International Stock Exchange and The Securities Association.

YOUNG HIGH-CALIBRE BANKERS

As a result of the continuing expansion of our West End Branch, we have vacancies for MANAGERS ASSISTANTS and SECURITIES CLERKS.

We are looking for experienced, ambitious bankers of high calibre to fill these posts. Candidates, who are likely to be in the age range 20-28 should have completed, or be about to complete, the ACIB examinations. Initiative and the ability to work with the minimum of supervision and under pressure are also important factors. The work will be varied and stimulating, involving mainly corporate lending to a wide range of businesses.

These jobs offer the opportunity to join a young team in an expanding branch network with the likelihood of rapid promotion to more senior positions for the right individuals. We offer a competitive salary together with all the benefits associated with a major bank. We would expect the successful candidates to achieve significant salary progression within the next few years.

Replies, enclosing a detailed curriculum vitae, should be sent to:

Mrs. Anne Dunford,
Manager - Personnel Department,
Hill Samuel & Co. Limited,
100 Wood Street,
London EC2P 2AJ



HILL SAMUEL & CO LIMITED

A member of the TSB Group.
A member of the Securities Association.

INTERNATIONAL APPOINTMENTS

SENIOR INTERNATIONAL EQUITIES ANALYST

Well respected Wall Street Investment Banking firm, a pioneer in dealing in international shares with U.S. institutions, seeks experienced, progressive, talented international equities analyst. Ability to analyse and convey timely investment ideas to subscribers and investors throughout the U.S. and Europe. High pay commensurate with experience and production. Willing to relocate to New York. Send resume in confidence. Write to Box 48988, Financial Times, 10 Cannon Street, London EC4A 3DF

IMRO

INVESTMENT MANAGEMENT

ACA's


Professionalism City Exposure Training Variety

These are just some of the attractions of IMRO (Investment Management Regulatory Organisation Ltd) for the professionals currently in the IMRO team. IMRO now seeks to appoint a number of qualified ACA's to further complement its inspection and investigation staff.

IMRO has developed a strong dynamic team of professionals in preparation for its role as a Self Regulating Organisation centred upon regulation of Investment Management ranging from the major merchant banks to smaller independent concerns. This is a unique opportunity to gain first-hand knowledge of the sector.

These positions will be of interest to top calibre ACA's looking for a challenging and high profile role. IMRO pays competitive city salaries with a benefits package which includes mortgage subsidy.

For further details please contact Paul Wilson or Penny Bramah on 01-404 5751 or write enclosing a curriculum vitae to Michael Page City, 39-41 Parker Street, London WC2B 5LH.



Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

Corporate FX Salespeople


Highly Competitive Package

Our client is one of the world's leading banking organisations with a powerful and highly profitable treasury function. Its reputation in this area is of the highest standard and as a result of its continued success in London seeks to recruit two additional corporate dealers.

The successful candidates will be educated to at least 'A' level standard and be experienced in foreign exchange (spot and forward), money markets, securities and options. They will have the maturity and personal qualities necessary to build and retain customers on behalf of the Bank. A second language, ideally German, would be advantageous though not essential.

If you have the technical experience, the ability to sell and market, and a high level of drive, these positions offer the opportunity to join an outstanding operation committed to profitable expansion.

Interested parties should contact Nick Root or Nick Bennett on 01-831 2000 (evenings 675-6384) or write enclosing full C.V. to The Treasury and Investment Division, Michael Page City, 39-41 Parker Street, London WC2B 5LH.



Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

FINANCIAL OPPORTUNITIES

MULTI CURRENCY EUROBOND TRADER Candidate must have good trading experience in Sterling, Guilders and Deutsche Mark Euros. Please call Karen Gray for further information.	CANADIAN EQUITY SALES 2 years experience	£ Neg
FUTURES TRADER Good experience required of trading all instruments. Candidate must have an excellent work record. Please call Richard Ward.	JAPANESE EQUITY SALES 2 years experience	£ Neg
SENIOR MANAGER Fixed Income. Excellent opportunity for person with several years experience in Fixed Income sales to UK Institutions. Set up and develop a team. Major investment house. Please quote ref DF/443.	EQUITY SALES Must speak Japanese	£ Neg
EUROBOND SALES Minimum 3 years sales experience required for reputable House. Good UK institutional client base essential. Please ring Karen Gray for details.	UK EQUITY SALES TO UK 2 years experience	£ Neg
CANADIAN DOLLAR TRADER Good experience trading Canadian Government Bonds. Quality House. Please call Richard Ward.	UK EQUITY SALES TO EUROPE 2 years experience	£ Neg
SALES - EUROPEAN EQUITY SALES To UK - Fluent French. Experience with Equities sales preferably European. Large international house. Please call quoting ref DF/310.	EUROPEAN EQUITY SALES TO UK 2 years experience	£ Neg
AUSTRALIAN EQUITY SALES Candidate must have good UK client base and two years experience in Australian equity sales. Please call Karen Gray.	FIXED INCOME SALES Scandinavian coverage	£ Neg
ECU TRADER About 2 years experience in trading of ECU's. Please call Richard Ward.	BOND RESEARCH Fluent French or German	£ Neg
SALES - EUROBONDS Must have fluent German with experience selling Bonds to European/German institutions. Ref DF/512.	GILT SALES 2 years experience	£ Neg
CANADIAN DOLLAR EUROBOND SALES Quality House seeks Canadian dollar sales people with good European client base. Please call Karen Gray.	MANAGER GILT SALES 4 years plus experience	£ Neg
	MORTGAGE BACKED SECURITIES SALES 2 years experience	£ Neg
	TREASURY SALES 4 years experience	£ Neg
	CONVERTIBLE BOND SALES 4 years experience	£ Neg
	MANAGER - Warrants, Convertible Sales 5 years experience	£ Neg
	CORPORATE TRADER 5 years experience	£ Neg

For details of the above please call Sue Stevens.
01 377 6488
Cambridge Appointments
232 Shaftesbury High Street, London E1

01-377 6488

Major International Asset Management Organisation

Head of Research


Following a decision to further expand its existing asset management arm, this prestigious international insurance group has decided to establish an in-house research capability, which has created the need for a Senior Researcher.

It is vital that applicants have strong man-management skills, as the role entails responsibility for recruitment and the structuring of this new department. The intention is to develop a hard core of analytical talent responsible, not only for monitoring broker material, but also for developing original research.

This unique opportunity to develop an innovative unit will be attractive to candidates from a broad range of backgrounds. Those of particular interest to our client will currently be sector specialists who desire exposure to a wider market; Fund Managers with a strong analytical bias and a desire to specialise in research; or generalist equity researchers.

Salary will be negotiable and dependent upon a combination of career record and future potential.

Interested candidates should write to Andrew Stewart at the address below enclosing a comprehensive C.V. or telephone him on 01-248 3653 (01-385 9616 evenings/weekends), or use our confidential fax line on 01-248 2814. All applications will be treated in the strictest confidence.



BBM
ASSOCIATES

76, Watling Street, London EC4M 9BJ Tel: 01-248 3653/01-489 8070

CONSULTANTS IN RECRUITMENT

Senior Sterling Dealer


City
Attractive salary package
with Company Car

Enhance your dealing scope by applying your skills to our growing Dealing team at the London Branch of this leading Austrian bank.

If you are aged between 30-40 and have at least five years' experience in all aspects of the domestic sterling market also using forward cable and arbitrage skills, you may have what it takes to further develop our already profitable sterling book.

With your all round knowledge of the sterling money markets and products you will work within the money market team and report direct to Chief Dealer. We think the excellent remuneration package we offer is likely to attract the right candidate.

Applications, in confidence, are therefore invited in writing with full curriculum vitae to Rosemary Jordan, Manager - Personnel, Girozentrale Vienna, 68 Cornhill, London EC3V 3QE. The closing date for receipt of applications is 26th September (No Agencies please).



Girozentrale Vienna
BANK

SPOT DEALER

As part of a planned expansion of its Treasury operations my client, a leading British Merchant Bank and Accepting House, is seeking to recruit an additional dealer to strengthen its established dealing team.

Candidates, aged 25 to 35, should have been dealing for not less than three years and have current experience trading spot Dollar/Yen.

Competitive terms will include negotiable salary, bonus and a full range of banking benefits.

To discuss this position in complete confidence please telephone:

Terence Stephenson
Prince Rupert House
9/10 College Hill
London EC4R 1AS
Tel: 01 248 0263

KIM ENG SECURITIES

We require experienced Institutional Sales people with specialised knowledge of the Singapore/Malaysian and Hong Kong market in our London Office.

An attractive salary and benefits package will be offered, commensurate with experience.

Please forward a curriculum vitae to:
Andrew Hobbs, Kim Eng Securities (Private) Ltd., 37 Park Street, London W1Y 3HG

SINGAPORE LONDON HONG KONG

Private Banking Executive

c.£30,000p.a.,
plus Car and
Banking Benefits


The Hongkong and Shanghai Banking Corporation, one of the world's leading international banks, is seeking to recruit an executive to join the London office of the group's global private banking network.

The position will include responsibility for marketing the bank's extensive range of services to an international client base, managing existing accounts and developing new business relationships with high network individuals.

Candidates, aged about 30, will have a full knowledge of investment management, tax and estate planning, preferably gained within the private client division of an international bank. Strong personal qualities, particularly self-motivation, determination and initiative are essential to assist the development of new business opportunities. In this context, overseas marketing experience would be an advantage as the role will involve foreign travel.

In addition to the salary indicated, an attractive benefits package includes non-contributory pension scheme, car, mortgage subsidy and BUPA.

Please write enclosing full personal career details to:- Mrs Sylvia Keats, Personnel Department, Hongkong and Shanghai Banking Corporation, 99 Bishopsgate, London EC2P 2LA.



Hongkong Bank
The Hongkong and Shanghai Banking Corporation

Structured Finance

£ Negotiable

A well-known progressive international bank with a significant and growing presence in the London market seeks to recruit a key member of their leveraged finance team. The bank targets medium-sized U.K. corporates and provides innovative solutions to client problems on a fee-earning, transaction oriented basis. The structured financing department will liaise closely with the corporate finance and banking teams but has full responsibility for sourcing, structuring and negotiating deals.

The ideal candidate will be a graduate with several years' relevant experience in a merchant or commercial bank. A sound credit training is important as is a thorough understanding of cashflow based funding. Exposure to the structuring and negotiating of leveraged finance deals is essential for this exciting and influential role.

Interested candidates should contact Mark Hartsborne or Niall Macnaughton on 01-404 5751 or write to them at Michael Page City, 39-41 Parker Street, London WC2B 5LH. (Fax No. 01-831 2612).



Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

التجارة الدولية

Corporate Finance Executive Oil & Gas

Morgan Grenfell & Co. Limited, a member of The Securities Association, is seeking an Executive to join its Energy Group which is situated within the Corporate Finance Division. This Group provides advice to oil industry clients regarding acquisitions and divestments, asset based financing and other financial advice. The role will involve research, analytical and valuation work, as well as considerable client contact.

Applicants should be aged under 30 and have 2-5 years experience of cashflow evaluation and a knowledge of the UK oil taxation regime, probably acquired in the oil industry or in the financial sector.

The remuneration package will be highly competitive and will include a preferential mortgage scheme, non-contributory pension scheme and private medical cover.

Applications, including full personal and career details, should be sent to-

Miss G. Nash
Morgan Grenfell & Co. Limited
23 Great Winchester Street
London EC2P 2AX

**MORGAN
GRENFELL**

BAYNARD SECURITIES (LONDON) LIMITED

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MEMBER OF THE
INTERNATIONAL
STOCK EXCHANGE

We are keen to expand our private client business and would like to talk to brokers with existing client base. Efficient external clearing service in place.

Please call:
ANTHONY BALME,
LUCIAN MIERS
OR
GAVIN FLAXMAN
75 Carter Lane,
London, EC4V 5EP
Telephone Number:
01 236 6224

Assistant Directors and Managers

CORPORATE ADVISORY DEPARTMENT

Our advisory team is one of the most active in the City. Recent work for clients includes advising Irish Distillers, Pleasurama, Beazer, Nestlé, Harris Queensway, Tomkins, Ward White and Sandell Perkins on major public transactions.

The growth of our business means that we are now looking for executives with at least two years' Corporate Finance experience who can contribute to some of the most exciting and imaginative transactions in the City.

Apply in confidence to:

David Reed
Managing Director
County NatWest Limited
Drapers Gardens,
12 Throgmorton Avenue,
London EC2P 2ES
Telephone 01-826 8366

COUNTY NATWEST

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Senior Banking Appointments

London Bank £60,000 plus benefits

We are seeking to fill two of the most interesting and challenging senior banking appointments in the City of London.

Our client is a well-known, foreign-owned London bank serving the needs of clients engaged in international trade and development.

A recent review of future business strategy has identified changes required to increase the bank's competitive position. As a result two Deputy General Managers are to be appointed to manage two key areas of the bank.

The Deputy General Manager - Operations

will have responsibility for the operations and finance functions, and for managing the process of change in these areas.

The Deputy General Manager - Business Development

will have the overall task of expanding the range and sophistication of the bank's products and services and delivering these to clients in an innovative and profitable way.

Both these positions require persons with well developed management skills, familiarity with the international banking field, and the ability and energy to take on new challenges in a changing environment.

These senior appointments will command salaries of £60,000, supplemented by a full range of banking benefits.

If you wish to apply for either of these positions please write - in confidence - enclosing a CV to Douglas Austin, ref. 7041/7042. Alternatively telephone 01-487 5000. Fax: 01-487 4374/5.

MSL International (UK) Ltd, 52 Aybrook Street, London W1M 3JL.

Offices in Europe, the Americas, Australia and Asia Pacific.

MSL International

Corporate Finance

ACA's & Solicitors

Our client, a leading U.K. merchant bank, has an active and highly innovative corporate finance department.

Continued expansion has created opportunities for young, high calibre professionals with first class academic backgrounds and lively personalities to join its corporate finance division.

This is an excellent career move for ambitious individuals looking to undertake a challenging, fast moving and rewarding role with excellent long term career prospects.

If you are interested in discussing these roles please ring Penny Bramah on 01-404 5751 or write to her at Michael Page City, 39-41 Parker Street, London WC2B 5LH.

Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

British Steel Pension Fund

Investment Management UK EQUITIES

British Steel Pension Fund has a vacancy in its UK Equities team, responsible for a portfolio worth over £1,800M.

Based in Victoria, the job is "Investment Analyst - UK Equities" but involves both a management and an analytical role. The successful candidate would be expected to make a significant contribution in a team where remuneration is based on performance.

Applicants should have a degree or a professional qualification, and have at least two years relevant experience gained in a stockbroker or investment institution.

Please write or telephone for an application form, or write, marked "Personal", enclosing a full CV, including your current salary, to:-

Investment Manager
British Steel Pension Fund
Redstock House
5 Eccleston Street
London SW1W 9LX
Telephone: 01-730 5256

THE UNIVERSITY OF LEEDS

DEPARTMENT OF MECHANICAL ENGINEERING

CHAIR OF MANUFACTURING ENGINEERING

Applications are invited for a new Chair of Manufacturing Engineering established in the Department of Mechanical Engineering. This new development enjoys UGC, DTI and industrial support and the post is tenable from 1st June 1989. The successful candidate will play a leading role in the development of new 3-year B.Eng and 4-year M.Eng schemes in Manufacturing Systems Engineering and in research in the general field of manufacturing within the Department of Mechanical Engineering. Further academic and technical posts will be established in support of this development in the period up to 1991/92. The salary will be within the professional range. Further particulars may be obtained from the Registrar, the University of Leeds, Leeds LS2 9JT, quoting reference 68/56. Applications (two copies) giving details of age, qualifications and experience and the names of three referees should reach the Registrar not later than 28 October 1988. Applicants from overseas may apply in the first instance by cable, telex (856473 UNILDS G) or facsimile (0532 336017), naming three referees, preferably in the United Kingdom.



FIXED INCOME SALES

Our client, a highly prestigious and front line U.S. Investment bank is looking to expand its well known fixed income sales team in London. You need to have sales experience in this field, be highly ambitious and committed and preferably have a degree. European languages would be a real asset. Multi-product training will be given if necessary. Age 25-32.

Salary top end of the market.

For further information please telephone us on 01-589 0072 until 6.30 pm.

T M INTERNATIONAL RECRUITMENT
CONSULTANTS LTD
50 HANS CRESCENT
LONDON SW1

OPPORTUNITIES FOR DEALERS

To revitalise a trading room

The varied fortunes of the US regional banks have been the subject of much speculation over the past year. In our client's case the speculation is over, the way forward that much clearer and, importantly, the level of commitment to a London presence undiminished.

Chief Dealer

To provide a funding base from which to develop FX, and to profit from off-Balance Sheet trading, we are looking for an experienced Dealer with a demonstrable track record in deposit trading, coupled with foreign exchange exposure and familiarity with all money market instruments. Ideal candidates, probably not less than thirty five, will need the maturity and presence to start from scratch and enough energy to generate confidence - and profits! Day to day responsibility for the dealing room will be total so you will obviously need management skills as well as trading abilities. All that is a lot to ask, but in return our clients are offering a suitably generous remuneration package which adds to the attraction of the role. (Reference WE 8190).

Dealer

Still at a high level but reporting to, and very much working with, the Chief Dealer, you will need the same qualities outlined above but with two or three years' experience trading deposits and FX. Flexibility and initiative are the key requirements in this role, combined with the opportunity to work in a small, close knit environment. The learning and responsibility curve will be steep and you will need to meet that challenge! Again, salary expectations are unlikely to disappoint. (Reference WE 8191).

In the current circumstances, please ring Malcolm Lawson on 01-439 4581 during the working day or 0444-73216 in the evening for a very brief discussion. Paperwork can be sent by fax to 01-439 6205 or 01-755 0586. For the future, correspondence should be sent to Ward Executive Limited, Academy House, 26-28 Sackville Street, London W1X 2QL.

WARD EXECUTIVE

LIMITED

Executive Search & Selection

RECRUITMENT CONSULTANTS GROUP

3 London Wall Buildings, London Wall, London EC2M 5PJ
Tel: 01-588 3588 or 01-588 3576
Telex No. 887374 Fax No. 01-256 8501

CJA

Excellent career opportunity with early prospects of increased responsibility and remuneration.



CONTRACTS NEGOTIATOR - AIRCRAFT

HOME COUNTIES

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MANAGEMENT

The Piper Alpha disaster

The ultimate test of an emergency plan

Steven Butler on crisis management at Occidental Petroleum

Shortly after midnight on July 7, John Brading received an urgent telephone call in his hotel room in Zurich. He was told that an explosion on Occidental Petroleum's Piper Alpha oil production platform in the North Sea, nearly an hour and a half earlier (about 9:30 in the UK), had ignited a fire and that flames had engulfed the structure. He knew from the start that the loss of human life would be serious and damage to property extensive, although the full severity of the disaster would only later become apparent. Brading spent many hours on the telephone and tried fruitlessly to arrange immediate transport to the UK. "By the time I left Zurich (at 7 am), I knew we had an enormous catastrophe on our hands," he says. Brading is chairman of Occidental International Oil and has executive responsibility for Occidental's UK activities. He is the man who stood in front of the international press in Aberdeen for many days, answering questions about what Occidental was doing to cope with the worst disaster in the history of the offshore oil industry. And he was the man responsible for managing the sudden shift in gear, from a company exploring for and producing oil and gas one day, to a company coping with the terrible aftermath of tragedy the next - and for many days after. Few companies are likely ever to have to cope with a crisis of the proportions of the Piper Alpha disaster - ranging from a continuous operational emergency while the platform burned out of control, to the difficulties of dealing with 167 bereaved families dispersed throughout the UK, all the while coping with an avalanche of press inquiries from around the world. Still, no large company can afford to be totally unprepared for a crisis and it is instructive to see the way Occidental reacted. The picture that emerges is of a company that responded quickly to disaster because it



John Brading: "By the time I was told, the plan was already moving into action"

to deal with emergency operations, one to co-ordinate employee activities and one to handle media inquiries. It was a regimen which only began to wind down slowly after a month. The offices were manned 24 hours a day, seven days a week, and for some it has still not let up. Brading and other Occidental executives spent several weeks travelling from one funeral and memorial service to the next. "The initial response was that people just worked that much longer. The car park outside the office at Aberdeen was as full at 4 am as it was at 4 pm. Most of our staff worked phenomenal hours, 16 to 18 hours a day, seven days a week, week after week. We have people who, since the 6th of July, have perhaps not had more than one or two days out of the office." Brading says that the most difficult dilemma posed by the crisis was how to provide support, advice or counselling to the families of men who died in the fire, most of whom were not Occidental employees but who worked for about 25 different contractors. "We were just nowhere near having the resources in-house to undertake that activity. It was physically impossible." Occidental instead worked through local Crampton region social services and other voluntary organisations, such as the Red Cross and the Salvation Army, and had weekly meetings with contracting firms in an attempt to provide a similar level of support for all families. The object was to tailor the services to individual family needs. The police bore the burden that a relative had died on the platform. Occidental followed this up with visits by senior executives and staff of the employee relations unit. Professional counselling was made available to all 167 families. Part of Occidental's difficulty was to establish precisely what help each family welcomed and what was considered intrusive. In the end the company found that most families took full advantage of

members come together in groups of eight or 10 with a counsellor leading. I was perhaps surprised to find out how well informed our employee relations department was. They seemed to see quite early on that there would be a need for such an activity. More than 200 Occidental employees avoided themselves of the sessions to talk out their feelings, and some took advantage of the offer for individual counselling sessions. The emergency operations team saw to the work of bringing the fire under control, securing the mangled platform against rough winter weather, and searching for bodies. A team went to work on restarting production in neighbouring fields shut down because of their links to Piper Alpha. Occidental set up a separate office in Aberdeen and brought in overseas and retired staff to conduct an investigation into the causes of the disaster with as much independence as possible. (A public inquiry is expected to start next month in Aberdeen.) A small Occidental team is now considering ideas for eventual redevelopment of the Piper field. According to Brading, it was dealing with the media that stands out as the most frustrating aspect of the whole experience. "The sheer volume of media

interest in itself was a problem. There were times when people in our organisation felt that servicing this demand for information was actually siphoning off manpower and brainpower from more important issues." Occidental received some pretty rough treatment itself. "I think we dealt honestly with the press. I don't feel all of the media were as honest with us as we were with them. Some sections of the media are unable to treat a serious subject in the required depth." He admits, though, that Occidental was probably not harmed by the press. The hurt came to the bereaved families, many of whom he says were unnecessarily upset by allegations, for example, that drug and alcohol abuse may have been behind the accident. Does Brading have advice for other companies? "I'd say make sure you have an emergency plan, make sure you practice, keep it simple and keep it flexible. We benefited from the fact that in those early hours of the disaster, when people are really devastated and numb, they go through the trained routines because they are not in good shape to start improvising on the night. Although a simulation always lacks some elements of the real thing, it's invaluable."

'A strategic decision is only as good as its projected figures'

By Richard Waters

Managers cannot make the right strategic decisions using traditional accounting numbers. That is not a broadside from a disgruntled academic who feels his own pet theory has failed to win favour in the corporate world; it comes from David Allen, finance director of Cadbury, who is one of the most vociferous advocates of professional financial management in the UK. Allen has now written down his thoughts for the International Federation of Accountants. The result is a paper which outlines what he calls "a structure for strategic financial management". Loosely translated, this means "a way of assessing the true value of an enterprise, and of objectively evaluating the different options open to it." The inadequacies of traditional accounting in this process are generally well understood. The numbers produced are historical and inward-looking, and so provide little help for anyone trying to take a forward-looking decision with one eye on a competitive market. "Accounting reports not only have little positive value, but they can be positively misleading," says the report. A simple example: shrinking businesses are likely to show a better return on capital than growing ones. A concentration on short-term return could thus lead to an inefficient use of capital over the long term. The answer is the classically simple one of assessing a business or range of businesses on their ability to generate cash in the future. Projecting net cash flow, and then discounting this by a company's cost of capital, provides the true present value of the enterprise. In other words, a business which will generate net cash of £1m in five years' time is worth less than one that will provide the same return within three years. But if the first business is expected to make higher earnings in subsequent years while the second is expected to dry up, the decision is not so simple. Only discounted cashflow calculations can provide a true comparison of the two streams of income. A company faced with a strategic decision - whether it involves which of its businesses to develop or dispose of, or whether to launch an advertising campaign to develop a particular product - should therefore project the likely cashflow from each alternative. Discounting this to provide a net present value for the business provides the basis for a dispassionate decision on the best use of resources. Allen is as simple as this, though the maths for applying it will take a little longer to digest. Nevertheless, the paper can be absorbed in less than an hour, and thankfully is short on theory and long on practical examples. The main problem, of course, is that a strategic decision is only as good as the projected figures. Miscalculation of the future margins in a particular business sector, or the likely sales resulting from an advertising campaign, and profits disappear. Allen makes no attempt that financial managers can exist in isolation; but his approach provides a framework into which the value judgements of marketing or production executives can be fitted. It gives financial managers the tools to translate the knowledge and skills of others into a plan for their business. "Perhaps it has been their inability or unwillingness to tackle these questions before that has undermined the standing of chartered accountants in commercial enterprises." Several years ago, just about all of the members of the prestigious ICAEW (whose members are drawn from the ranks of finance directors in the largest companies) were chartered accountants. This has now fallen to about three in four, and is likely to slide further. They are being replaced by non-accountants with MBAs, or by members of the Chartered Institute of Management Accountants (like Allen) whose training is based on real management accounting issues. Long Term Financial Health - A Structure for Strategic Financial Management, available from David Brooks, Chartered Institute of Management Accountants, 62 Portland Place, London W1N 1AB.

PUBLIC NOTICES

INTERNATIONAL THOMSON PLC A PETITION was presented on 6th September 1988 to the Court of Session by International Thomson PLC, a company incorporated under the Companies Act and having its Registered Office at 25 Charlotte Square, Edinburgh. The Company's share register is closed to the transfer of shares in the Company from 1st October 1988. The Company is seeking an order of the Court to transfer the share register to the Registrar of Companies in Edinburgh. The Company is also seeking an order of the Court to transfer the share register to the Registrar of Companies in Edinburgh. The Company is also seeking an order of the Court to transfer the share register to the Registrar of Companies in Edinburgh.

On 8th September 1988, the Vacation Judge pronounced an interlocutor in the following terms: 14th September 1988 Lord Weir Act Solicitor The Vacation Judge on the Motion of the Petitioner appoints the Petitioner to be liquidator of the Company and in the Minute Book in common form, appoints the Company to be liquidator and to hold a meeting of holders of the Company's shares in Edinburgh at the offices of the Company, 25 Charlotte Square, Edinburgh, on Wednesday 12th October 1988 at 11 am, at which place and time the holders of the common shares of the Company are to be invited to attend and to vote in favour of or against the proposed liquidation of the Company. The Petitioner is also appointed to be the liquidator of the Company and to hold a meeting of holders of the Company's shares in Edinburgh at the offices of the Company, 25 Charlotte Square, Edinburgh, on Wednesday 12th October 1988 at 11 am, at which place and time the holders of the common shares of the Company are to be invited to attend and to vote in favour of or against the proposed liquidation of the Company.

IN ACCORDANCE with the foregoing order, a duly authorised Committee of the Board of Directors of the Company have had the pleasure of holding a meeting at the offices of the Company, 25 Charlotte Square, Edinburgh, on Wednesday 12th October 1988 at 11 am, at which place and time the holders of the common shares of the Company were invited to attend and to vote in favour of or against the proposed liquidation of the Company. The Committee has the pleasure to announce that the holders of the common shares of the Company have voted in favour of the proposed liquidation of the Company. The Committee has the pleasure to announce that the holders of the common shares of the Company have voted in favour of the proposed liquidation of the Company.

UNIT TRUSTS The Financial Times proposes to publish this survey on: 19th October 1988 For a full editorial synopsis and advertisement details, please contact: Tim Davis on 01-248 8800 ext 4181 or write to him at: Bracken House 10 Cannon Street London EC4A 4BY FINANCIAL TIMES LONDON'S BUSINESS NEWSPAPER

COMPANY NOTICES

NOTICE TO HOLDERS OF THE ASHIKAGA BANK, LTD. (Kabushiki Kaisha Ashikaga Ginko) 2 1/4 per cent. Convertible Bonds due 2002 Pursuant to Clause 6(B) of the Trust Deed dated 31st March, 1987, notice is hereby given as follows: The Board of Directors of The Ashikaga Bank, Ltd. ("the Bank") adopted, at its meeting held on 6th September, 1988, the resolution that the Bank issue new shares by way of a free distribution of shares, the particulars of which are given in 1) and 2) below. Consequently, the Conversion Price of the Convertible Bonds will be adjusted in the manner set forth in 3) below. (1) The free distribution of new shares will be made to shareholders of record as of 30th September, 1988, Tokyo time, at the ratio of 0.05 shares for each share held. (2) The new shares will be issued as of 18th November, 1988, but the dividends for these new shares will accrue as from 1st October, 1988. (3) Adjustment of the Conversion Price. Pursuant to Condition 4(C) of the Bonds, the Conversion Price will be adjusted from Yen 967.00 to Yen 921.00 per share of the Common Stock of the Bank effective as from 1st October, 1988, Tokyo time. The Ashikaga Bank, Ltd. By: The Mitsubishi Bank, Limited as Principal Paying Agent Dated: 14th September, 1988

CORRECTION NOTICE Remit Bank, Ltd. US\$40,000,000 Floating Rate Certificate of Deposit 1987/88 For the six months from 31st August 1988 to 27th February 1989 the certificate will carry an interest rate of 8 1/2% per annum. The interest payable on the relevant interest payment date 27th February 1989 will be US\$2,236.12 per US\$500,000 certificate. Chemical Bank, London.

NOTICE TO THE HOLDERS OF BANDO CHEMICAL INDUSTRIES, LTD. Warrants to subscribe for shares of Common Stock of Bando Chemical Industries, Ltd. issued in conjunction with an issue of US\$60,000,000 3 1/2% Bonds due 1992 Pursuant to the agreement dated 11th August 1988, under which the above Warrants were issued, notice is hereby given as follows: 1. The Board of Directors of the Company resolved on 6th September 1988, to make a free distribution of shares of its Common Stock to the shareholders of the Company on record as of 30th September 1988 at a rate of ten per cent of the shares then held. 2. Accordingly the adjusted Subscription Price per share of the above-mentioned Warrants will be Yen 620.00 per share of Common Stock, with effect from 1st October 1988. BANDO CHEMICAL INDUSTRIES, LTD. By: The Taiyoo Kobo Bank Limited Principal Paying Agent Dated: 14th September 1988

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Professional Personal Computers in the 90s London, 31 October & 1 November, 1988 The professional personal computer industry is at a watershed. A series of significant issues, both technical and commercial and chiefly connected with industry standards, are now being debated and resolved in ways which will affect the shape and direction of the industry for the foreseeable future. There are serious questions still to be settled. * Will IBM, for example, which established the standard for personal computers some seven years ago now be able to persuade customers, distributors and other vendors that its new Personal System/2 architecture is the right path to follow? * How swiftly will AT&T's Unix, or one of its derivatives, become accepted as the standard operating system, not only for microcomputers but for mid-range machines as well? * How should personal computers best be networked into the distributed systems that are increasingly expected to become the standard for commercial data processing? Speakers will include: Mr Gilbert Hoxie Arthur D Little, Inc Mr Jim D'Arenzo Compaq Computer Corporation Mr Alain Blancquart Borland International Mr Gordon Campbell Chips and Technologies, Inc Mr G Gervaise Davis III Schroeder, Davis & Orfiss, Inc Mr Alex Osadzinski Sun Microsystems Europe Inc Mr Henning Oldenburg Open Software Foundation Mr Geoff Morris X/Open Company Limited For information please return this advertisement, together with your business card, to: Financial Times Conference Organisation 128 Jermyn Street, London SW1Y 4JL Alternatively telephone: 01-925 2223 telex: 27347 FTCONF G Fax: 01-925 2125

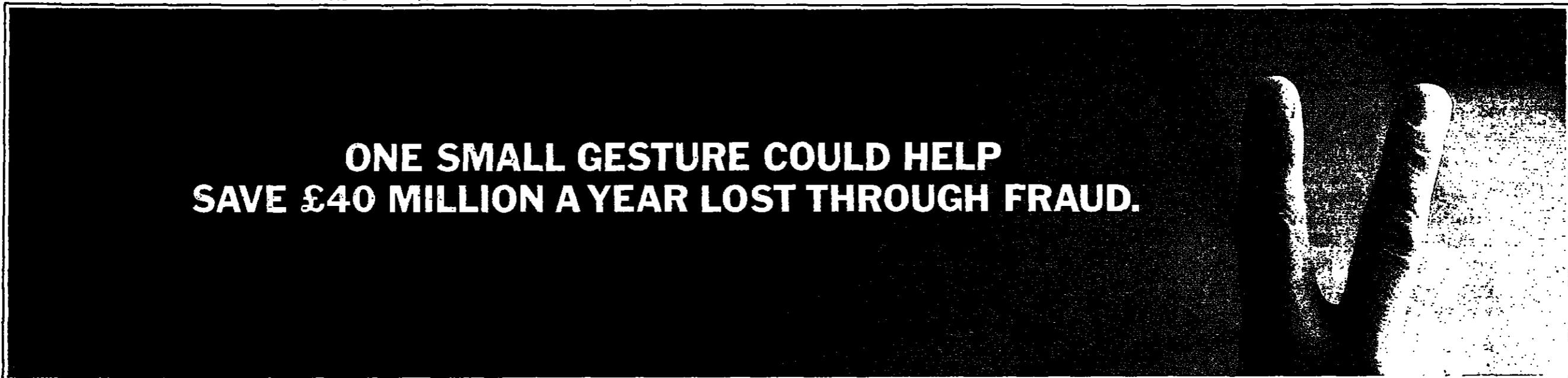
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What you see below is Biometric Security in action. The operator stretches out his hand. He places it on a measureplate in front of him. A three-dimensional image of his hand is then calculated. It takes into account the distance between fingers, palm thickness, even the translucency of his skin.

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But consider this: Computer fraud is just the tip of a £5 billion fraud iceberg.

It is a fact that the majority of frauds are committed by disgruntled employees. That 75% of all frauds are for sums no more than £25,000. And that most frauds are discovered by accident or by tip-offs.

Unfortunately it is also true that many companies seem to have adopted a 'head in the sand' attitude to the whole problem.

They believe that their security is quite sufficient already. And that it is hardly management's responsibility to act as their employees' conscience.

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● If you have already posted your registration form and you think that it may be caught up in the dispute, check the draft register at your local council offices, main library or Post Office. It will be published on 28th November. If your name isn't on it, contact your local council offices.

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CONTRACTS

£16m oil fields development

PRESS OFFSHORE has won a £16m contract from Conoco (UK) for a large compression deck for the 'V' Fields project. The contract is expected to lead to recruitment of around 100 tradespeople at the company's four Tyneside yards to meet commitments for this and other contracts currently under fabrication.

The 5,100 tonne compression deck will be fabricated, fitted out, tested and commissioned at the Howdon Yard at Walsend. Construction will start in October with completion and loadout programmed for May 1990.

A fully integrated structure, the deck will have four levels - cellar, mezzanine, main and air cooler - with the three gas compression trains on the main level. The other levels will mainly carry process, power, control, services and safety systems. A crane will be integrated into the structure.

As part of the contract Press will also construct a 25 metre long bridge to link the compression deck to the offshore location. Press Offshore is part of AMEC, the international construction and engineering group.

WEIR ENGINEERING PTY, the Australian subsidiary of the Weir Group, has won an order from the State Electricity Commission of Victoria to design, supply and install six boiler feed pumps for Long Yang 'B', a 2 x 500 MW coal-fired power station in the Latrobe valley, Australia. Worth over A\$13m (nearly \$5.5m), it is the fourth major contract awarded to Weir Engineering for work at Long Yang 'B' and brings its total order value to nearly A\$32m (almost \$16m). The pumps and motors will be manufactured under a co-production agreement between Weir Pumps and Weir Engineering in Sydney, and will be fully tested in Glasgow.

The pumps are to be installed on a 200-tonne concrete plinth, which will be completely fitted out off-site before being lifted into place on spring supports on the turbine hall floor.

A contract worth about \$2m has been awarded to SD by the Ministry of Defence for a Combat Net Radio Management Information System (CRIS) for the British Army. SD is the newly-formed government, defence and aerospace business within SD-Scicon, which was created by bringing together the relevant parts of Systems

Designers and System, the two companies which merged in April this year. CRIS will combine tactical frequency management with automatic production and distribution of communications information and enable the radios used by the British Army to be operated more effectively in hostile battlefield environments.

FERRANTI COMPUTER SYSTEMS has won a £2m Ministry of Defence fixed-price contract to supply the Royal Navy with equipment to monitor ships' hull vibrations. Despite efforts to design vessels to operate as silently as possible every vessel generates vibrations which varies with on-board machinery in use. In order to apply a degree of control over the vibrations, they must first be measured. As well as providing the vessels' command with information about the possible noise being generated by the vessel, it can also provide an efficient method for monitoring the performance of the vessel's machinery system. The contract covers installations in surface ships and submarines. Each system comprises 'an array of accelerometers located around the vessel.'

A variety of contracts totalling over £15m have been awarded to London building contractors **MANSKILL** for refurbishment, repair, new build, maintenance and minor works. Largest is a £2.7m contract for South West Thames Regional Health Authority at the St Heller Hospital, Carshalton, Surrey, involving the refurbishment of a six-storey ward block, upgrading a theatre unit and constructing a plant room on the roof. Work is due to be completed in October 1989.

For the Union Bank of Switzerland, the company is undertaking the £1.1m fitting out of one floor at 122 Leadenhall Street, EC3, involving the installation of services, including full air conditioning, raised floors and suspended ceilings. Work is due to finish in December.

A £1.1m refurbishment of 1-44 Nethewode Court, Lower Park Road, Belvedere, Kent, is for Columbus First Housing Association involving the installation of central heating systems in occupied flats, together with insulation of all external walls and brickwork repairs and double glazed windows. Work has started and is due for completion in September.

At Boleby & Esher Gardens,

Lower Park Road, Parkside, SW15, the £1.1m refurbishment of the exterior of four blocks of flats in the London Borough of Wandsworth. Work has started and is due for completion in May.

The £1m conversion of an office building at Lombard House, Putney Way, Croydon, into 55 separate units is also underway. The project is due for completion in January.

The near £1m construction of a four-storey office building with air conditioned open plan floors and a central core with lift shaft, stairs and toilet is being built for London & Commercial Properties at 37-39 Pitfield Street, London N1. Work is due to finish in June.

A £750,000 upgrading of offices for British Telecom at Broadway House, Bromley High Street, Bromley, is due to finish in December, while at Selby Road Community Development, Selby Road, London N17, a £900,000 refurbishment for Graham Mahon Developments involves adapting a school to community requirements, roofing and lift installation.

Computer training

The Central Electricity Generating Board has awarded an \$8m contract to **MARCONI SIMULATION** for the computer hardware and software for a simulator to train operators for Britain's first pressurised water reactor nuclear power station. The simulator will be installed at the proposed PWR training centre on the site of Cliff Quay power station at Ipswich. The simulator will be used to train staff associated with the Board's PWR programme in both normal and emergency procedures - well before the first PWR currently under construction at Sizewell, Suffolk, becomes fully operational in 1994. It will provide a training environment capable of meeting the Board's requirements. The contract was won on the basis of Marconi Simulation's proprietary parallel processing approach, which has been used on previous power plant simulators. Manufacture of the simulator will be carried out at Marconi Simulation's plant near Dunfermline, Fife, and will employ 50 specialist Marconi engineers until its completion in 1991. The work will be project managed by the CEGB's generation development and construction division.

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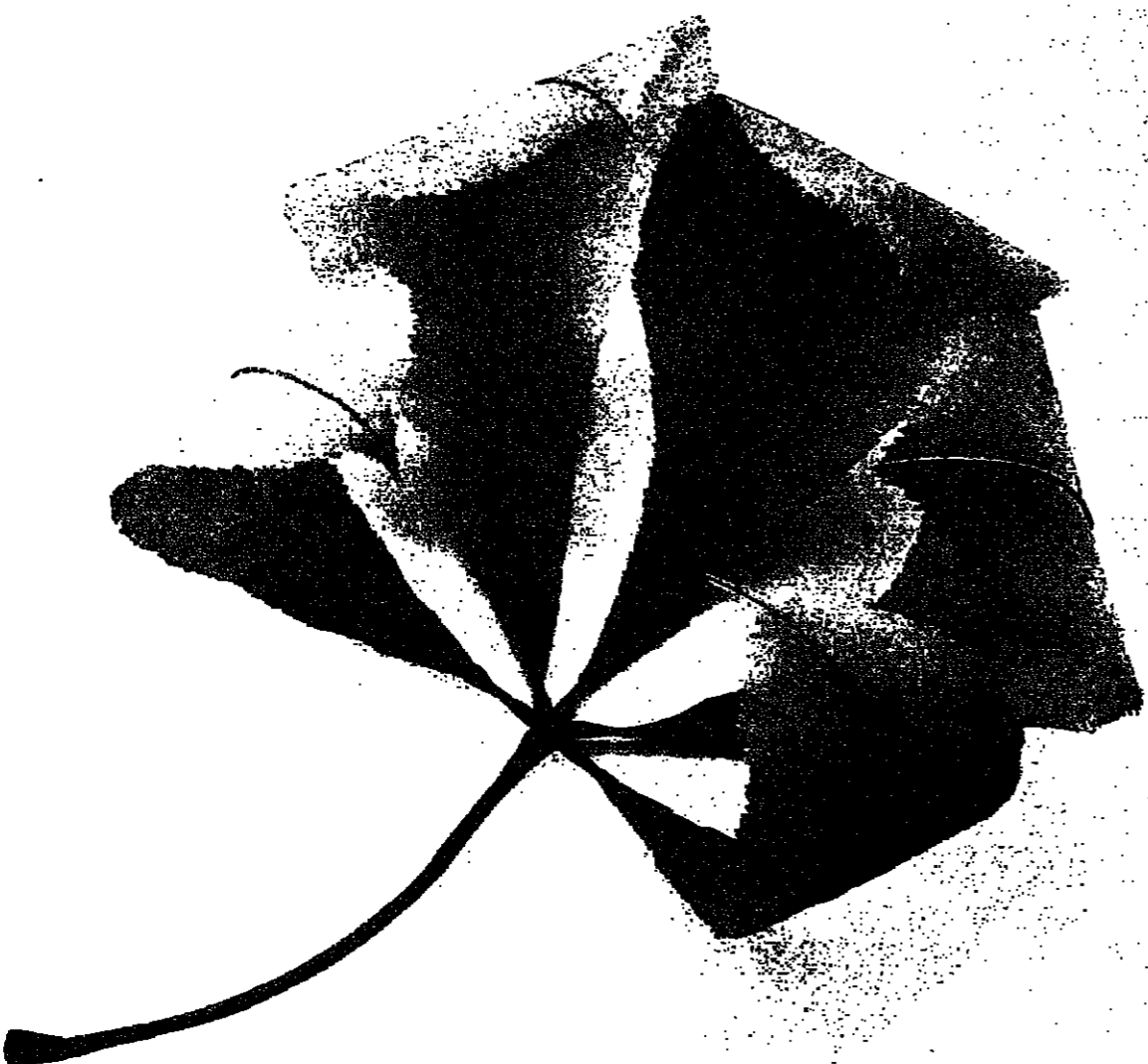
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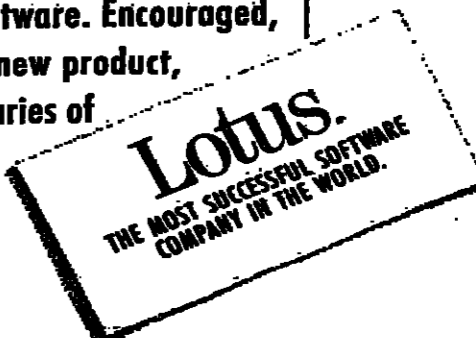
In many instances, our presence in their

business extends beyond the simple presence of our software, with their appointment as Lotus Authorised Consultants. It's a considerable achievement for a company who launched their first software only as recently as 1983.

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ARTS

TELEVISION

Have your bias and eat it
Christopher Dunkley wraps up the summer season

One of the most impressive, though surprising, successes of the generally tedious summer season which is now ending was *The Incredible Strange Film Show*, a six-part series produced and directed by Andy Harries and presented by Jonathan Ross for Channel 4. The subject was cult movies and their makers, and the final programme on Friday, which featured Russ Meyer's *King of the Nudes*, was a prime example.

Success sprang mainly from the nice balance achieved between fan-style enthusiasm and journalistic incredulity/ridicule. Ross embodied this, managing to sound on the one hand well informed and on the other hand mildly amused at the excesses. Harries injected a powerful sense of style, fitting his presenter on locations which chimed harmoniously with the subject matter.

During the Meyer episode he had Ross arriving at a deserted drive-in cinema to watch the black-and-white movie *Faster Pussycat, Kill Kill* in the very car featured in the movie, and accompanied by the amazing female star, whose name sounded like "Viviana Salsina". It was one of those rare programmes which both entertained in its own right and told you things you did not know, who would have dreamed that *"Beneath the Valley of the Ultravixens"* was funny!

The endlessly discussed revolution in BBC journalism seems to be taking an unconscionable time arriving on screen. Michael Checkland was appointed Director-General more than one and a half years ago, and his deputy, John Birt, who was brought in specially to spearhead the revolution, has now been around long enough to have been succeeded in the post of Director, News and Current Affairs by Ron Neil. Yet still you would need a magnifying glass to discern any changes in the output.

True, BBC1's new weekly programme about politics, *On the Record*, has now been around long enough to have been succeeded in the post of Director, News and Current Affairs by Ron Neil. Yet still you would need a magnifying glass to discern any changes in the output.

now dominating the pop music business. Switching on during a late shave, I found myself in the middle of what I had thought was solely an advertising jingle: "I'm easy, easy like Sunday morning" (which seems to be the complete lyric). This snatch of music is used on a commercial for a plastic cashpoint system - precisely whose is anybody's guess - in which a young man leaves his flat in a converted deckchair warehouse and collects money from a hole in the wall to buy milk for his cat and a newspaper for himself.

Miss Robinson followed that with "He ain't heavy, he's my brother," a hit by The Hollies nearly 20 years ago, which has now re-entered the charts thanks to its use on the brilliant *Comic Relief* telethon.



Gilding the lily: when he first began presenting programmes on food it quickly became clear that Keith Floyd - seen here - was one of those rare television naturalists. But in his latest series, *"Floyd on Britain and Ireland"* on BBC2, he appears to be turning into just another screen loon.

Ridicule has occasionally been poured on television people by this column for their complaints about the supposedly low level of television criticism in the press. When you consider their own pitiful record in criticism generally (the whole of British television supports just one professional critic that I know of, Barry Norman) and their near total failure to act as a public watchdog over the press, the hypocrisy seems mind boggling.

There is just one highly enjoyable little programme which, for more than 30 years, has kept an eye on Fleet Street: Granada's *What The Papers Say*. Even though it is a television's habit as with every other thing else from books to ballet - has been to borrow its critics from the newspapers (I presented *The Papers* once myself). Yet its very rarity as well as its longevity has given it a particular value. It was, consequently, saddening to hear that Michael Grade had decided Channel 4 would scrap it. Richard Ingram, one of the programme's best presenters, went to Manchester with a black tie to present the last ever... and discovered that ITV, where the series began in 1956, was re-adopting it.

Chanel 4's late night talk programme *After Dark* which began with a collection of excellent conversations and then became so annoyingly inconsistent, allowing itself too often to be hijacked by bored, redeemed itself last week with an outstanding discussion on alternative medicine. What matters so much in programmes of this sort is the choice of participants. On this occasion the combination of Jacques Benveniste from Paris, Jonathan Miller, a research fellow from Glasgow named David Reilly (who showed Miller to be as prone to prejudice as the next man) and James "The Amazing" Randi (a sort of one-man charlatan busting outfit) resulted in a conversation which easily held one's attention until the early hours of the morning.



Gwyneth Jones and Franco Bonisolli

Turandot

COVENT GARDEN

The first night of the Royal Opera's 1988-9 season on Monday was very definitely an Occasion - or should have been. The revival of *Turandot* marked the 25th anniversary of Dame Gwyneth Jones's Covent Garden debut, and the launching of the new Jeremy Isaacs regime. There were newly designed programmes, frankly rather naff, with a spooky little logo on the cover, the title of the opera, the name of the sponsors and their logo, but no mention of the composer.

The stalls have been rearranged, giving more legroom and better sightlines; the carpet has been removed, though we must reserve judgement on the effect on the acoustics. The catering facilities have been improved; a lick of paint here and there has perceptibly brightened the place up. Best of all, the benign presence in the stalls of Dame Eva Turner, who helped Dame Gwyneth prepare her *Turandot*, linked past with future, as did Mr Isaac's presentation of the house's silver long-service medal to the prima donna at curtain-fall.

Rodney Milnes

A Doll's House

RIVERSIDE STUDIOS

For all their adventurous programming and financial insecurity, Riverside Studios often deliver the goods when it comes to classical revivals. Ibsen's great play is not as often seen as it might be, but Ian Sargent's mostly lucid and well acted production is a useful metropolitan companion to the new Fay Weldon touring version reviewed here recently by B A Young.

Nora Helmer's final slamming of the door echoes across this century's drama, but Anna Carteret plots the exit with a revelatory sweet reasonableness. It is a quite different reading from Cheryl Campbell's coquettish, spirifer performance for the ESC a few years back. Miss Carteret carries her maternal dignity before her and the crime of having forged the loan on the security from Krugstad carries no guilt. Her action was that of a good wife.

It is when her deceptions and interventions are discovered to be part of a misplaced affection that her determination to leave takes shape. The final act of

this play never ceases to grip and amaze. In Christopher Hampton's supple and dagger bright translation, the slow return of rings and retraction of vows (was any "I don't love you anymore" ever more poignant?) summarise those terrible little conversations that should have been spread more thinly through the eight-year marriage.

Miss Carteret's dolliness is a state of mind, not a physical condition as it was with Miss Campbell, and there is no great explosion with the second act tarantella. Instead, the climax is reserved for Bill Wallis's marvellous Dr Rank, besotted with Nora, taking his leave of the couple, certain of death, in a ludicrous clown suit and red nose.

The Helmers' apartment is lavishly spread across the great Riverside arena by Stephanie Howard in the conventional presentism style of a full-on Lyttelton revival. Sumptuously lit by Leonard Tucker, there is nothing remotely cut-price about it. This vasty arena is comfort-

ably occupied by Kate Fahy's ventriloquistic self-sacrificing best friend and David Hargreaves's secretive, mild and apologetic Krugstad, a performance that is, like Mr Wallis's, totally original, if a little soft-spoken. Corruption and blackmail have infected the domestic oxygen in spite of all efforts to carry on as normal. We have offstage glimpses of family meals, bustle in the hallway, the party rumbling on in going for such atmospherics, Miss Sargent has rather underplayed the hangdog husband Torvald, whom Eamon Boland reduces with a painful, often inaudible mutter, to a blank stooge.

Also opening at Riverside Studios this week, in the smaller theatre, is Sorcha Cusack's remarkable performance as Frank McGuinness's *Bogland* which I reviewed at the Edinburgh Festival, a chill warning to Nora of what happens after you've slammed the door and walked the streets for a few weeks.

Michael Coveney

The Way to Keep Him

ORANGE TREE, RICHMOND

Richmond's Orange Tree Theatre sticks to its policy of mixing the tried and untested with a four-play season that includes three premieres - two of them already well established outside London and England - and a revival of an accomplished 18th century comedy. To come are a new play from Martin Crimp, author last year of *Definitely the Bahamas*, an American import by Israel Horowitz, which arrives complete with its original director, and a musical to carry the theatre into the festive season. But it is Arthur Murphy's comedy of married manners, *The Way to Keep Him*, that bumps starts the programme, one of those delectable revivals that prove how well worth remembering are the journeymen of other times.

Written originally as a short farce in 1760, *The Way to Keep Him* was expanded at the insistence of David Garrick who found in the profligate Mr Lovemore a handy vehicle for himself. Well-crafted and shrewd

without being strikingly original, it enjoyed a considerable success in its day with its mockery of social snobbery and marital affectation. While Lovemore leaves his wife languishing at home to play the field abroad, the bumbling Sir Bashful Constant thrashes around in the unhappy conviction that the man of mode loves anyone but his wife. Modishness, personified in the 18th century lounge lizard Sir Brilliant Fashion, drifts from house to house all the while compounding the general discomfiture by making passionate advances and scornful remarks.

Sam Walters' production, using a version compiled for Dublin's Peacock Theatre a decade ago, rides a bumpy first half to find its momentum in the feminine wiles that bring the rogue male wild and truly free. The early problems caused by the sheer sophistry of plotting, which sets the Constant and Lovemore households in parallel with that of the chief fixer, the glamorous

Widow Bellmore. Two young actors play the pivotal roles of man and maidervant to all three, a particularly tall order for professional debutante Anna Mazzotti who has yet to find her idiom as confidante, supercilious hussy and pert French bonne.

Elsewhere, there are some glorious comic performances - Michael Elwyn's scurrilously opportunistic Lovemore is matched by David Timson's appoeklyptic inadequate Bashful, while Robert Daws adds to the stage, a gleam of blue brocade and white teeth perpetually bared by an insincere, ingratiating smile. Liz Crowther, as the dowdy Mrs Lovemore, and Joan Moon, in pallid despair of her underbred bumpkin of a husband, are folks to watch in Bellina Lang's hands because the play's most memorable part: cutting and drying her words like a young Maggie Smith she is quite rightly bewitching.

Claire Armitstead

Stravinsky's 'Oedipus Rex' in Siena

Now in its forty-fifth season, the Sestimana Musicale Senese - Siena's musical week - is one of Italy's oldest festivals, junior only to the Maggio Musicale Fiorentino, which is planning its fifty-second edition for next year. But, unlike the glittering international Maggio, the Siena week has always been intimate, scholarly, choice. It is, after all, associated with the highly esteemed masterclasses of the Accademia Chigiana, whose eminent teachers and eager students participate in some of the events and regularly attend the others.

Like most other Italian musical organisations, the Chigiana and the Sestimana senese have had, in recent years, some economic difficulties: rising costs have obviously caused a certain austerity of programming. Still, the artistic director Luciano Alberti assembled an impressive roster of artists for a staging - by Alberti himself - of Stravinsky's *Oedipus Rex* in the magic spaces between the Duomo Nuovo, left unfinished because of the plague. An ideal setting for the

plague story of Oedipus, and for scenery the sculptor Arnaldo Pomodoro invented simply a pair of massive panels, which could serve as walls or another, with a Mephistophelian unquity, the actor Gabriele Lavia spoke Cocteau's explications (diluted in Italian translation) tactfully.

William Weaver

ARTS GUIDE

THEATRE
London
Easy Virtue (Garrick). Transfer of King's Head revival of early Noel Coward, same period but lesser vintage than *Hay Fever*.
South Pacific (Prince of Wales). Average, traditional revival of the great Rodgers and Hammerstein musical, with Gemma Craven falling to wash the baritone Emile Belcourt out of her hair. (839 5589).
The Phantom of the Opera (Her Majesty's). Spectacular, emotionally unearthing new musical by Andrew Lloyd Webber. (839 2244, credit cards 879 015, 240 7200).
Hairs (Shaftesbury). Barbra Streisand and Michael Martin now decorate Mike Ockrent's strong revival of Sondheim's 1971 musical, in which poisoned marriages nearly undermine an old burlesque reunion in a doomed theatre. (379 8939).
Hagare (Aldwych). New Tom Stoppard mixes espionage, romance and higher physics.

Felicity Kendal is the eponymous intelligence agent, Roger Rees and Nigel Hawthorne in elegant support. (839 6404, credit cards 879 8233).
Amsterdam
Importance of Being Earnest (Shaftesbury). The Berlin Play Actors with Oscar Wilde's play, directed by Erik Mavrick. (741 23 22).
New York
Cats (Winter Garden). Still a sell-out. Trevor Nunn's production of T.S. Eliot's children's poetry set to music is visually startling and choreographically felicitous. (239 9262).
A Chorus Line (Shubert). The longest-running musical in the US has not only supported the Joseph Papp's Public Theater for eight years but also updated the musical genre with its back-story. (239 6200).
Les Miserables (Broadway). The magnificent spectacle of Victor Hugo's majestic sweep of history and pathos brings to Broadway lessons in pageantry and drama. (239 6200).
Sightings Express (Gershwin). Those who saw the original at the Victoria in London will barely recognize its US incarnation. The stars do not have to go round the whole theatre but do get good garb on the spread-up stage with new bridges and American scenery to distract from the hackneyed pop music and tramped-up, silly plot. (239 6210).
Kiss Me (Gaiety). Even if the plot turns on ironic mimicry of Pygmalion, this is no classic, with forgettable songs and dated bookness in a stage full of characters. It has nevertheless proved to be a durable Broadway hit. (947 0083).
M. Butterfly (Regency O'Neill). The surprise, Tony winner for 1988 is a somewhat pretentious and obvious meditation on the true story of the French diplomat whose long-time mistress was a male Chinese spy. (246 0240).
Speed-the-Flow (Royale). David

Mamet applies his biting sarcasm and ear for the exaggerations of American language to Holly. In this scurrilously funny and well-plotted expose of the film industry. (239 6200).
Stranger Here Myself (Public). Angelina Roux performs two decades of Kurt Weill's songs in a one-woman show covering the composer's careers in Berlin, Paris and New York. (556 7100).
Washington
Les Misérables (Kennedy Center Opera House). The touring company of the international hit of last season brings to Washington the historical sweep of Victor Hugo, set to music and an insistent contemporary beat. Ends Oct 15. (254 8770).
Sleuth (Eisenhower). Stacy Keach and Maxwell Caulfield star in the mystery pitting a writer against a mild-mannered travel agent who's stolen his wife's affections. (254 3678).
Cabaret (Wolf Trap Festival). Joel Gray leads the cast in a week-long visit by the revival of the hit musical based on Christopher Isherwood's Berlin reminiscences of the 1930s. (432 0200).
Tokyo
Kabuki (Kabuki-za). The morning programme, at 11am, includes *Sago Yurube*, with Living National Treasure, Utaemon, in one of his most famous roles as a sophisticated courtesan who quits a country bumpkin. In the afternoon, at 8pm, the programme includes *Il Tatro*, a "new kabuki play" set in the 19th century at the time of Japan's opening to the West, as well as one of the most famous works in the kabuki repertoire, *Kanjinchō* (The Subscription List), in which a wily servant outwits his master's pursuers. (541 3131).
Opera-as-no Kabuki (The Phantom of the Opera). Nisned Theatre. Japan's leading musical company, Shiki, acquires itself well in what is a virtual carbon-copy of the London original. The Japanese translation is often awkward, but Andrew Lloyd Webber's gift for musical pastiche, Harold Prince's romantically evocative staging and Maria Bjornson's stunning sets and costumes make for an enjoyable evening whether you understand the words or not. Ends September 20. (503 8111).
Noh (National Noh Theatre). A double bill consisting of the sacred ritual *Okina* (old man), on which all noh is said to be based, and a true noh play, *Tenko*.
Bunraku (National Theatre). The bunraku puppet theatre is one of Japan's most refined art forms. Each doll has three operators who remain in sight of the audience throughout the performance, while a narrator at the side of the stage unfolds the story to musical accompaniment. This month's performance features Hiragana Seisui, a play written in the *jidaijimon* (classical) style in 1788.

Blood Wedding

BLOOMSBURY THEATRE

The presentation of Lorca on the English stage has come on such a lot that it is something of a surprise to find how little of it has rubbed off on the National Youth Theatre. Edward Wilson's production of *Blood Wedding* is an entirely bloodless arrangement, which marries an acceptable new translation from Michael Dewell and Carmen Zapata into line with some mournful tunes from Geoffrey Burgon, but which entirely fails to find the soul of the piece. In lieu of Andalusian fire we are presented with some stiffly choreographed flamenco at one side of the stage during the wedding scene, the girls attendant on the Bride about their lines as if afraid of the space yawning between them and their audience, and the bride herself mews out her doubts, more like a frightened kitten than the passionate victim of an inescapable fate.

The decision to represent the deaths of Leonardo and the Bridegroom with a slow-motion knife-fight is surely a mistake, since it breaks down the dramatic contrast between the lofty poetic personification of the Moon (Christopher Holt, kidded out like a spectral fencing instructor) and the gory fact of a blood feud about to reach its climax offstage.

There is something rather worrying about a production in which so much young talent has been so misdirected, with so much more attention to the externals of grouping and design than to finding a playable idiom. Occasionally a right note is struck and held for a while - Elizabeth King finds one of them in a wistful lullaby to her baby which catches something of the deep sadness of a wife's lot - but the odds against it are loaded. Diane Axford, a promising comic actress whose Nurse was the highlight of last year's Romeo and Juliet, embodies the problem in a Lorcan matriarch appropriately severe in appearance, clear and strong in voice, but whose final poetic cry of despair floats off into the sort of wondering recitation one might expect of a talented entrant to a schools speech competition.

Claire Armitstead

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Wednesday September 14 1988

Social gloss on 1992

THE MOVE towards a single European market is a development that trades unions are bound to regard with mixed feelings. The initial shock to the industrial structure, as competition increases and production is concentrated to areas of scale, is bound to hit older industries where the unions are well entrenched. At the same time the collective bargaining power of nationally based unions may be eroded by the increasingly free movement of goods, capital and services around Europe.

It is ironic, then, that the British labour movement should finally be warming to the European ideal when the single market is the main item on the Community agenda. And it says something for the advocacy of Mr Jacques Delors, the European Commission's president, that he is now persona grata with the once reluctant Europeans of the Trades Union Congress. His call for a social dimension to the unified market was greeted with a remarkable degree of enthusiasm at the TUC meeting in Bournemouth last week - an enthusiasm no doubt enhanced by the knowledge that the call was going down badly in Downing Street, where union influence has long since been banished.

Incentives for rented housing

THE INFLOW of money over the last two weeks into rented residential property companies, attracted by the new tax breaks under the Business Expansion Scheme (BES), has far exceeded the Thatcher Government's expectations. Investment in rental property through the scheme during the current tax year is now expected to run ahead of the Government's estimates of £125m by a factor of up to four. Even such sums, translating into the purchase of 20,000-30,000 houses and flats per year, are small when compared with the size of the UK's housing stock valued at about £580bn. But the effects on the private rented sector, whose share of the total housing stock has shrunk from more than 50 per cent 35 years ago to less than 9 per cent today, will be more perceptible.

Robin Pauley on the economic impact of the reshuffle in China's leadership

Burden on new shoulders

China's leaders, who rule a quarter of the world's population, do very odd things in the summer heat. Chairman Mao Zedong once floated in the Yangtze River to prove that all was well with him - although the impression was generally the opposite for anyone who knows what goes into that river. The present leaders all troop off on holiday together to the beach resort of Beidaihe and this year seem, sitting in the sun, to have lost their collective nerve and reversed policies carefully constructed in the more bureaucratic climate of Peking.

The leadership is alarmed - and confused - about the extent to which the Chinese economy is overheating and seething out of control. Its Beidaihe response is to clamp down on economic reforms, a decision which could, if prolonged, undo much which has been achieved during the last decade's painful attempts to drag the huge country into the modern world.

Distorted figures

British economic indicators are likely to be quite seriously distorted for at least the next few weeks. The distortions come at a time when the management of economic policy is already difficult enough because of the need to deal with the credit explosion and the trade deficit. They also coincide with an official inquiry into whether the statistics are adequate even when the Post Office is working normally: the samples are said to be too small.



Carrying silt from the Pearl River for brickmaking

Glyn Goch

his successor as Communist party General Secretary, thinking, correctly as it turns out, that it would be easier to keep the reforms going as Premier. There was clearly a huge row on the beach at Beidaihe. The key to it is inflation. The Chinese are hopeless at calculating true inflation rates because both the quality and range of data make the official figures meaningless. But China's leaders know what inflation is and fear its effects like the plague; it was inflation which ultimately brought down the Kuomintang Government and led to the success of the Communist revolution in 1949.

OBSERVER



taken today on whether to hold back the publication of the latest monthly trade data on Monday for another week. Many of the responses are stuck in the past. The CBI also reports that it has had numerous complaints from its members about cash flow problems. Thus today's meeting of the CBI Council will be addressed, at short notice, by Sir Bryan Nicholson, the Post Office Chairman. He is expected to explain what is going on and say something about the future.

nomie stability are the overriding priorities, has obtained the agreement of the ruling State Council, on which Zhao does not sit, that the whole 1989-93 programme is only "tentative". This means it can and will be revised or ignored. Already it is clear that there will be substantial wage rises in 1989 to please workers but major price rises. Investment in fixed assets will be sharply cut back with major implications for joint ventures in the construction industry in sectors like hotels and tourism. Credit rules, which had been relaxed and partially decentralised, will return to stringent central control.

Already it is clear that there will be substantial wage rises in 1989 to please workers but no major price rises. Zhao Ziyang went off to Beidaihe with his confidence already shaken. He has argued logically and persistently that some inflation is not only necessary but desirable in a third world economy which is trying to modernise, mechanise and replace inefficient and distorting subsidies with moves towards real pricing. But the economic background gave his arguments an increasingly hollow ring and the thought of an urban population of 200m possibly demonstrating against price rises and food shortages was too much for his colleagues. His announcement from Beidaihe last month that price and wage reforms would continue with further deregulation in a five year programme from 1989 to 1993 was unconvincing, understated and ultimately unsustainable.

Bonn's news

Rupert Scholz, the domish new West German Defence Minister, is developing a notably different style from his predecessor, Manfred Woerner. Scholz, a bespectacled 50-year-old Berliner, is a law professor who never served in the army. Woerner is a keen amateur pilot with a liking for donning flak jackets and inspecting military hardware. Since Woerner left to become Secretary-General of NATO in July, Scholz has been in difficulties over the disaster at the US base of Ramstein which claimed over 60 lives in August, and will have to face a tough Bundestag inquiry. For the rest, however, he has been striking new ground.

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Max Findlay reports on a shortage of young lawyers in Britain

Law of diminishing graduates

Solicitors firms have for some time now been seriously worried by an increasing shortage of good law graduates.

This is blamed on a number of factors: an enormous explosion in demand for lawyers in the wake of Big Bang and the increasingly international nature of legal practice; the cash crisis among law faculties; the shortage of places at law schools; the financial difficulties of students over funding their way through their training (particularly acute for non-law graduates who have a two-year haul to get through exams). A survey of law graduates on the solicitors' finals course demonstrates that over 40 per cent of those with university degrees do not go on to become solicitors immediately.

In July this year, this recruitment crisis was officially recognised by the Law Society, by its training committee concluding that the Society should press for more places on more law degree courses at more law faculties. The profession is also being asked its views on "more radical measures" which include shortening the qualifying period for solicitors, tighter selection procedures for final examination course places and Government bursaries for final students.

Additionally, the committee "will have regard to" graduate starting salaries in other professions when setting solicitors' minimum pay. (From August 1, this is £7,200 for Inner London, £6,900 for Outer London and £5,000 for the provinces.) Not that starting salaries in the capital are always that niggardly: £12,000 is common and, as a lawyer put it, "that's not bad for knowing absolutely nothing".

The longer term rewards are not exactly depressing either. One legal recruitment consultant says a City solicitor just out of articles can earn £19,000, rising to £23,000 after 12 months. Within two years of qualifying, the same lawyer's salary can increase to £30,500. Three years after that, he or she can be earning as much as £50,000 with a major City firm, while in the longer term, "£200,000 would not be an unlikely figure," according to the same source.

What else have law firms got to offer the discriminating graduate besides a lot of money? David Harris of Bird & Bird sums it up: "Students go into the law because it's

Law graduates

① Number of law graduates sitting the Solicitors Final Examination in the summer of each year

② % of the previous year's graduates this represents

Source: Law Society

Year	Universities		Polytechnics	
	①	②	①	②
1984	1833	58	680	66
1985	1781	58	783	67
1986	1780	57	885	69
1987	1735	57	849	67

perceived as a good, secure long term place to be as well as an interesting job." Given the wholesale redundancies in the City in the wake of the crash last October, this will now be an important consideration.

This is in contrast to the position shortly after Big Bang, when smart City firms undoubtedly lost bright people to the merchant banks.

Now, the boot is on the other, almost equally well shod foot. One eminent commercial lawyer spoke for many when he concluded: "A number of those who have gone into the banks have been bored to tears. A lot of the glamour has gone. The big salaries are going. A lot of people are delighted to move back into solicitors' practices."

But money is not, it seems, the greatest draw for graduates. McKenna & Co quizzed its 1987 candidates about the factors which influenced the selection of law firms to which they applied. In the case of those who finally accepted articles with McKenna, the key considerations were an assessment of the potential opportunities to work abroad (84 per cent); the type of practice involved - was it for example commercial or City-

based or international work? (80 per cent); the potential long term opportunities (76 per cent); a comparison of training programmes (68 per cent); and a comparison of brochures (68 per cent). Only 28 per cent were influenced by the firm's remuneration package, which included a starting salary of £12,000. Although the exact figures were slightly different, those who ultimately refused articles had the same outlook as their brethren.

The chance of a partnership is undoubtedly the biggest reason for solicitors to change firms. Cyril Bacheler of Room 12 concludes that "the most active point for change is between four and six years after qualifying."

Firms can vary widely in their choice of when to appoint new partners. According to David Lloyd of Linklaters & Paines, it is normally about six years after qualifying. In a smaller London practice, however, according to an intellectual property lawyer: "We would very quickly identify potential partners and sometimes bring them in three years after qualifying."

Although London firms receive hundreds of applica-

tions for articles, most graduates apply to several firms at the same time and the partnerships complain that demand still outstrips supply. One leading corporate law practice had 700 applicants for articles in 1987, out of which they interviewed 200 and offered articles to 106. There were only 35 acceptances. But the battle starts much earlier. Herbert Smith (like many firms) runs a vacation scheme for second year law undergraduates. It lasts for three weeks with the students spending one week in each of the three main departments. Linklaters has similar four-week programmes attended by 70 students.

Because of the shortage of law graduates and the rapid expansion of new areas of practice (for example, in intellectual property, product liability, biotechnology and environmental law) firms have turned their attention to students of other disciplines. Stephen Whybrow of McKenna comments: "You're only a credible force if you've got the right people." So they want Japanese and Chinese linguists, chartered surveyors and chemists. David Harris of Bird & Bird adds: "For our intellectual property side, universities

know the firm is very keen to recruit scientists." Linklaters "want every kind" of non law graduates. And the same is true all over London. Mr David Maund of Clifford Chance summarised a general attitude among recruiters towards students: "You want them to study what they really want to study rather than what they think will find favour."

The competition between solicitors for bright candidates has recently taken on a new dimension: university law faculties are turning to the big law firms for sponsorship to ease the current financial crisis in education. There is a clutch of well publicised figures: Cambridge University is reportedly seeking between £13m to £16m; King's College, London want £11m; New College, Oxford need £20,000.

And that is just the beginning. Cambridge says that it will cost £1m to endow a professorship in perpetuity with proper facilities. Elsewhere £500,000 is needed for a professorial chair here, £10,000 for a provincial lectureship there. Herbert Smith has recently funded law chairs at Nottingham and Manchester. Other firms have (according to one practitioner) "distributed various burs and bobs around the universities." The burs and bobs can turn out to be as much as £500,000 to a single institution.

London law practices are so concerned about the scale of appeals that a number of them are currently engaged in establishing a City Solicitors Educational Trust to help regulate assistance. But some solicitors wonder if it is right that any one firm can affect the choice of candidates by the depth of its pocket?

It is here that the real problem lies. The universities want the cash. The firms want to increase the number of good articulated clerks. It is the student in the middle who is likely to be left in a quandary. As more courses are geared to the needs of practitioners and the law faculties are increasingly beholden to particular firms, it is going to be that much more difficult for undergraduates to obtain truly independent advice on where to apply. Perhaps they can take heart from one statistic arising out of McKenna & Co's research. Of those who accepted places with the firm, a mere 8 per cent were influenced by their tutors as to where they should seek articles.

UK unemployment

The fiddles behind the jobless totals

By Michael Meacher

Tomorrow the Government will report another supposed drop in unemployment of some 50,000. But can its statistics be believed any more?

Last month alone three new "adjustments" were introduced. For the first time ever, all young people on Youth Training Schemes are suddenly being counted as "employed". Hitherto only the 25 per cent of YTS trainees with contracts of employment were registered as employed. Without creating a single extra job, the Government has humped up the number of people classified as employed by 350,000 - and reduced the unemployment rate correspondingly.

In addition last month, the Government abruptly stopped counting the number of unemployed school leavers at all. Last year these youngsters totalled 100,000 to 130,000 over the three summer months. On top of that, a further 106,000 under-18 unemployed people were unceremoniously unloaded from the jobless figures from October because they are no longer allowed to claim unemployment benefit.

Then next September everyone on the new Employment Training scheme, for which 500,000 places are targeted, will suddenly be classified as "employed". The unemployment rate will again be reduced artificially by another 500,000 supposedly in work.

These three changes alone alter how almost 1m people are categorised. But what is remarkable is that since 1979 there have been at least 16 other changes in the methods for counting the unemployed, all but one of which have had the effect of reducing the total, sometimes by large amounts.

The one change which increased the total was the first. From October 1979, fortnightly attendance at unemployment benefit offices replaced weekly attendance in the majority of cases. This added 20,000 to the total.

A year later, in November 1981, unemployed men aged 60 and over on supplementary benefit for over a year were given the option of the higher long-term rate of supplementary benefit and not registering for work. Over the next year this removed an estimated

37,000 men from the count.

A further change, making unemployment benefit taxable from July 1982, may have had the effect of persuading some potential unemployment benefit recipients, such as single parents, to opt instead for supplementary benefit, which is untaxed, and thereby disappear from the dole queues.

A very big change was made by Norman Tebbit in October 1982 which reduced the unemployment count by no less than 190,000, or 6.2 per cent of the total. It was made no longer compulsory for most of those getting dole money to register at Job Centres. The basis of the unemployment count was thus changed from a clerical count of individual records of those registered at local offices, to one based on computerised lists of claimants at Unemployment Benefit Offices. Under the former system some 135,000 persons who were registered at job centres as unemployed did not, usually because of ineligibility, claim benefit. At a stroke, these genuinely unemployed people suddenly vanished.

This was followed by two other devices with almost as big an effect in cutting the figures. From April 1983 men aged 60 and over no longer entitled to unemployment benefit were not required to sign on at Unemployment Benefit Offices to obtain national insurance credits. The effect was to remove some 110,000 from the monthly count. Two months later, the right of men aged 60 and over to obtain the higher rate of supplementary benefit - effectively to retire - was extended to all those receiving this benefit. A further 60,000 were removed.

Then in July 1985 a reconciliation between the claimants records of the Department of Health and Social Security and the Department of Economic Development showed discrepancies in the figures for Northern Ireland. It was resolved by lowering the total by 5,000.

Yet another device, deployed in March 1986, was to put back the compilation of the figures by two weeks, so that it took place three weeks after the date of the count, rather than one. This enabled more records of those ceasing to be unemployed on or before the date of

the count to be processed. It removed an average 50,000 from the total.

In July 1986 recognition was given to the increasing importance of the self-employed in the labour market. The unemployed were interpreted as a proportion of the total working population - not only employees and the unemployed, but the self-employed and the armed forces. The unemployment rate was suddenly shifted down by 1 1/2 per cent.

Later that year, in October 1986, abolition of the reduced rate of unemployment benefit for new claimants again artificially cut the total further still. Previously, unemployed persons who had not paid sufficient national insurance contributions to qualify for the full rate of benefit could still qualify for half or three-quarter rate. Excluding them lowered the unemployment total by around 25,000.

Another change was made the same month when the so-called voluntary unemployment disqualification was extended from 6 to 13 weeks. Previously, anyone who lost benefit for 6 weeks because they left a job "without good cause" could still claim benefit (and therefore be counted as unemployed) for the next 52 weeks. However, from October 1988, the new longer 13 week disqualification period was subtracted from the 52 weeks, giving a maximum unemployment benefit payment period of only 39 weeks. Then a few months ago, in April 1988, the disqualification period was doubled again to 26 weeks.

Yet another change took effect last April in order to obtain unemployment benefit, claimants were required to satisfy more stringent contribution conditions. This now removes about 3,000 per month on average from the total.

Tomorrow Norman Fowler will announce a new unemployment level of some 2,750,000. It is sobering but true that if all the Government's 19 statistical fiddles listed here were discounted, the real level of unemployment would be revealed to be still almost exactly 3m.

The author is Labour MP for Oldham (West) and shadow Employment Secretary

LETTERS

South African judicial interpretations

From Dr C.F. Forsyth.

Sir, Justinian's special pleading on behalf of the South African judiciary (September 12) misses the crucial point about the judicial role. No informed critic of the South African judges is unaware that the South African judges, like their English counterparts, are bound to apply the clear legislation enacted by the Parliament even when they consider that that legislation is unjust or morally abhorrent.

The debate over the judiciary concerns what the judges have done when the legislation in question is unclear or ambiguous, and the judges themselves choose the precise meaning to be given to the law. Have they chosen these meanings that advance the rights of the individual against the might of the executive? Or have they chosen those meanings that advance the executive at the expense of the individual?

Almost everyone who has read the relevant cases carefully has come to the conclusion that, since the late 1950s, the judges have frequently chosen to favour the executive at the expense of the individual, and often this has involved the judges in adopting artificial and formalistic interpretations of the law.

Matters have deteriorated so far that in some security cases the judges have abandoned the attempt to provide legally plausible reasons for their pro-executive judgments; they now simply announce dogmatically what the result of their deliberations will be. (Omar and others v Minister of Law and Order and others 1987(3) SA 859 (A) is a recent example of such a case.)

The critics' charge against the judiciary is that by not being more evenhanded in these difficult matters, the judges have rendered harsh legislation more oppressive than the South African Parliament intended. Even more seriously, by their apparent lack of independence they have contributed substantially to the crisis of democracy now facing the South African legal system: a crisis recognised even by the South African Government.

Could the judges have acted differently? Yes, of course. The judicial courage of the 1950s, in which the courts twice challenged on cogent legal not political grounds the South African Government's shameful plan to remove coloured voters from the voters' roll stands as permanent and eloquent testimony to the exist-

ence in South Africa of a vision of the judicial function more noble and independent than that espoused by the present judges, the South African Government, or Justinian.

Was it likely that the present judges would behave in this way? No; and the crude reason for that is that the South African Government has, very largely, appointed men like them to itself to the bench. These have failed to respond positively to their judicial task.

But Justinian seems to think that this excuses their failure. Translate this argument to England and ask whether it would be tolerated for a moment: that because a judge was appointed by a Conservative government he could not properly be expected to be evenhanded as between that government and individual litigants? Accept this argument and the independence of Her Majesty's judges will corrode away to nothing.

Justinian's defence of the South African judiciary is not only superficial and ill-informed, but also it contains dangerous arguments that cannot be left unmentioned in a free society. Hence, I have written this letter. C.F. Forsyth, Robinson College, Cambridge

When national frontiers are removed . . .

From Mr Stanley Crossick.

Sir, Your leader (September 9) and substantive reports on the Treasury's paper suggest that there is a clash between Brussels and London on VAT and excise harmonisation. I suggest that there is not.

Both the UK Government and the European Commission agree that trade distortions resulting from indirect tax differences will be minimised by market forces once national frontiers are removed.

The Commission maintains that most member states insist on harmonisation as a pre-condition for the abolition of frontier controls.

The UK must determine whether, contrary to the Commission's understanding, 12 member states will agree to the removal of frontier controls without harmonisation.

If not, the UK Government must decide whether its opposition to indirect tax harmonisation is so deep that it would prefer national frontiers to remain after 1992. Stanley Crossick, C&I, Belmont, European Community Office, Avenue de Cortenbergh 118-128, B-1040 Brussels, Belgium

Protectionism does nothing for anyone in a free trading world

From Mr C.S. Um.

Sir, Protectionist measures have been shown to do nothing to increase the efficiency of the indigenous industry which they are supposed to "protect". That is a fact more important even than the political whys and wherefores behind the European Community's (EC) latest decision to impose 29.2 per cent dumping duties on imports of video cassette recorders (VCRs) from Korea (William Dawkins's article, September 6).

A case in point is the US colour television industry. It remained uncompetitive in its own market against Korean imports even after the latter had had hefty anti-dumping margins levied on them. While the US consumer's freedom of purchase choice was unjustifiably restricted by the relegation of the value-for-money factor, the quality fac-

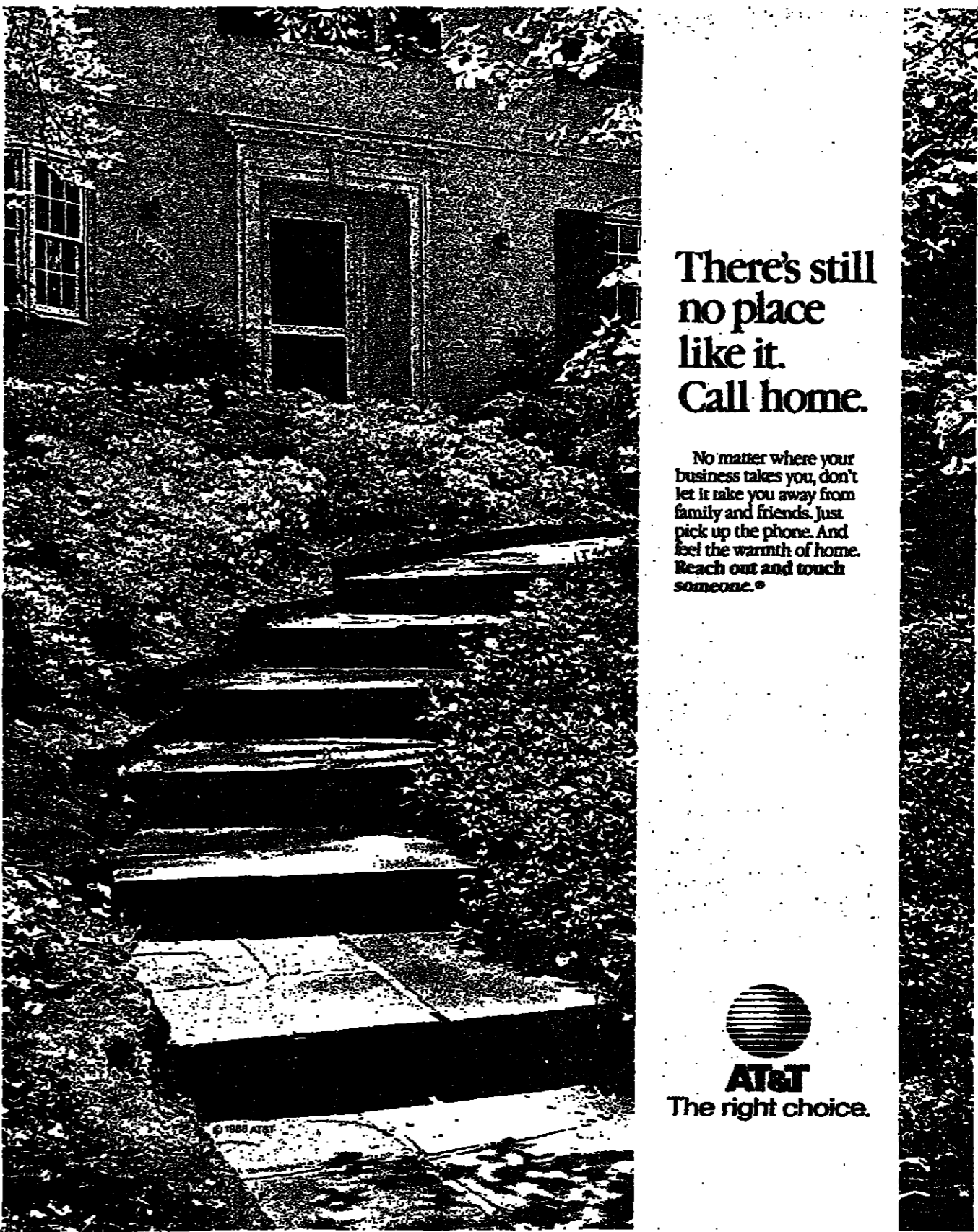
tor evidently compensated. That the quality of the domestic product was judged lower than that of the import can be attributed to US manufacturers relying solely on the question of price instead of investing in the kind of quality and technological improvement which the consumer demanded - and which the imported product supplied. In short: the competitiveness of the domestic product suffered.

Protectionism stifles the prospect of increased manufacturing competitiveness, and robs the consumer of the full freedom of choice which market forces in a free trade world should afford. Korea has long been the ultimate loser, must be the consumer. European consumers choose to buy Korean VCRs because these offer good quality at a reasonable price. Now they are faced with a choice between an extra 30 per cent on the price of a VCR,

and the prospect of being denied the technology and quality advances which unfettered competition engenders. Is that really a choice at all?

We understand that the aim of the EC single market is progress towards free trade between insider and outsider. But we are worried that abuse of a powerful tool like anti-dumping duties will be regressive, acting in the interests of only a minority European (the producer), and against the interests of the majority - the consumers.

We doubt, too, whether anti-dumping duties in the EC will prove any more effective a cure for uncompetitiveness among European VCR manufacturers than they were in the US. C.S. Um, Korea Trade Centre, Vincent House, Vincent Square, SW1



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Cuba accuses UK over envoy's expulsion

By Robert Mauthner, Diplomatic Correspondent, in London

CUBA YESTERDAY accused the British and US intelligence services of being indirectly responsible for the shooting incident involving a Cuban diplomat that has led Britain to expel Dr Oscar Fernandez-Mell, the Cuban Ambassador, as well as the diplomat concerned.

While the British Foreign Office maintained its habitual silence on "security matters," an unnamed police spokesman appeared at least partially to confirm the involvement of British security agents, when he admitted that a man wounded in the West London incident on Monday night was a security officer keeping watch on the envoy.

The expulsion within 24 hours of the Ambassador and Mr Carlos Medina Perez, a Third Secretary at the Embassy, was ordered by Mr

Timothy Eggar, a Foreign Office Minister, after the diplomat had fired shots at a group of people who had been following him in a car. The envoy said he had done so because he "feared for his life."

Police said the slightly injured man, who was questioned by the Anti-Terrorist Squad, was one of a four-strong security squad reported to consist of three men and a woman - who followed the diplomat to his home in Sussex Gardens, Paddington, London.

Mr Perez drew his gun as he stepped from his own car outside his flat and fired five shots, grazing the hand of one of those following him. Mr Perez, who was arrested but later released when he claimed diplomatic immunity, told police he thought he was being

followed by an assassination squad.

Before boarding his flight at Heathrow airport yesterday for Czechoslovakia, on his way home to Havana, Dr Fernandez-Mell said he believed that there had been "disgraceful complicity" between the US Central Intelligence Agency (CIA) and the British counter-intelligence organisation MI5. The Cuban Foreign Ministry, which described the British expulsion order against the Ambassador as "arbitrary and unfair," later issued a statement of its version of events.

Mr Carlos Medina Perez was leaving the building where he lived. He was approached by Mr Florentino Aguilera Lombard, who, the statement alleged, was "the deserter and traitor" who on June 6 1987 abandoned his duties at the Cuban Embassy in Prague and

went to work for the CIA.

"Aguilera was accompanied by three men and a woman. The traitor, in a menacing way, instructed Senior Medina Perez to defect. In reply to this, the envoy took out the gun he was carrying, fired it, and the group ran away."

The Ministry said it was absolutely impossible for an individual "who is totally in the hands of the CIA and under strict security measures" to travel to Britain and carry out such an act against a Cuban diplomat in London without the close co-operation of the British intelligence services and authorities.

The "extremely irregular and unjust" expulsion of the Cuban Ambassador was no more than a smokescreen to cover the co-operation between the CIA and British intelligence.

Paribas sells UK broker to Commercial Union

By Clive Wolman in London

QUILTER GODISON, the British stockbroking firm headed by Sir Nicholas Goodison, the London stock exchange chairman, which used to be one of the largest private investor firms, is being sold to Commercial Union, the UK composite insurance company.

The move represents the largest yet made by a British insurance company into stockbroking after the industry remained on the sidelines during the spate of acquisitions in the run-up to the 1986 Big Bang reforms.

Paribas Group, the French bank which bought Quilter Godison 2 1/2 years ago, is to sell at what represents a substantial loss its private client advisory and portfolio management arm. Mr Chris Honeybourne, Quilter's managing director and a Paribas director, said that he had been "reflected" the net tangible asset value of the company which appears in the accounts at about £8m (\$15.2m). But Paribas will keep the insurance broking, institutional and passive fund management businesses which have been integrated into the capital markets or other divisions of the bank.

The decision of Paribas to pull out of private client stockbroking is an embarrassment to Sir Nicholas, who will be resigning as a director when the sale is completed at the end of the month. In January, Sir Nicholas was appointed chairman of the TSB Group, the broadly based banking group. During his 12 1/2 years as stock exchange chairman, Sir Nicholas has championed the cause of wider share ownership. However, Paribas' decision to sell his firm follows seven successive quarters of trading losses, both before and after last October's stock market crash.

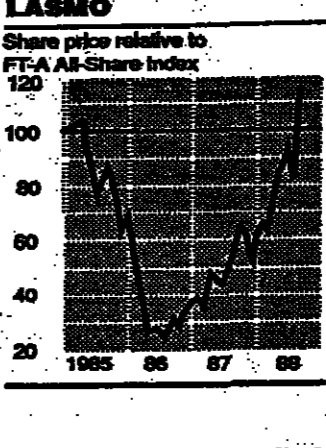
Before the crash, the firm suffered from a period of internal reorganisation and had difficulties in its setting client bargains. Its initiatives in setting up share shops in Debenhams and Selfridges stores had to be abandoned. Since the crash, the firm has suffered from low volumes of business, currently running at only seven per cent of its active client list is now only 15,000 to 20,000 and it has slipped from being one of the largest three private investor firms. After a round of redundancies, Quilter employs 210 people.

Two years ago, Commercial Union acquired a small Merseyside stockbroking firm, Ashton Tod McLaren, which employs 60 people. The two firms will operate alongside each with no formal integration between them except possibly in their settlements department which may be reorganised. Mr Tony Wyand, Commercial Union's investment and finance director, said that the acquisition was designed to allow the company to offer a wider range of investment services to individuals - and at "negligible" cost because of the current depressed state of the securities industry. The move will give Commercial Union an extra £10m of funds under management in addition to the £60m to £70m it currently manages in the UK.

The early bird misses the worm

By Clive Wolman in London

To make a dawn raid on a favourite mid stock, at a price no better than the recent high, would seem so certain to fail that it is tempting to look for a conspiracy in British Gas' ineffective advance on Lasmo yesterday. However, that might be too kind on a company which has not distinguished itself as a canny acquirer of late. Having paid fully for Acre, British Gas may have hoped this time to take advantage of weak oil prices, and reasoned that even at 480p Lasmo's shares discount a pretty optimistic oil price in the 1990s. The market sees things differently, and whatever its fears about the oil price, it knows it can demand exorbitant prices for Lasmo stock. However, the parallels between now and a year ago, when entrepreneurs like Mr Tony Berry were busily exploiting the excesses of a bull market, are not particularly relevant. Institutional liquidity is far higher than it was last year, most of a billion pounds of new issues in little more than a week may sound an awful lot, and the sight of companies anxious to raise money at the market's current depressed levels has made investors understandably cautious about the length of the queue. However, the parallels between now and a year ago, when entrepreneurs like Mr Tony Berry were busily exploiting the excesses of a bull market, are not particularly relevant. Institutional liquidity is far higher than it was last year, most of a billion pounds of new issues in little more than a week may sound an awful lot, and the sight of companies anxious to raise money at the market's current depressed levels has made investors understandably cautious about the length of the queue. However, the parallels between now and a year ago, when entrepreneurs like Mr Tony Berry were busily exploiting the excesses of a bull market, are not particularly relevant. Institutional liquidity is far higher than it was last year, most of a billion pounds of new issues in little more than a week may sound an awful lot, and the sight of companies anxious to raise money at the market's current depressed levels has made investors understandably cautious about the length of the queue.



shy of supposedly cyclical stocks like ICI is bound to be terrified of Rover; and that is only one imponderable to add to such as Airbus, the dollar and the property portfolio.

It may be that yesterday's fall was the bursting of a bubble blown by the Rover giveaway and the Saudi contract. If so, the market has yet to establish the only floor which matters - the level at which fund managers cannot risk being out of a stock with BAE's speculative potential.

Foreign guests outside the law

Robert Mauthner looks at the limits of diplomatic immunity

THE TWO incidents over the past few days in which foreign diplomats based in London have been caught red-handed brandishing, and in one case, firing guns in the street, have again raised the controversial question of diplomatic immunity.

Although the British Government decided to take a tougher line against the abuse of diplomatic immunity in the wake of the killing of policewoman Yvonne Fletcher during a demonstration outside the Libyan People's Bureau in April 1984, it continues to subscribe fully to the immunity provisions of the 1961 Vienna convention on diplomatic relations.

Thus, neither the junior Vietnamese diplomat who threatened demonstrators outside his Embassy with a pistol nor the Cuban Third Secretary who, last Monday, fired his revolver at a number of alleged attackers, will be prosecuted under British law, as they would have been if they had been ordinary British citizens.

Instead, the Government has taken the only course of action possible under the Vienna Convention, which clearly provides for the immunity of diplomats from the jurisdiction of the country to which they have been assigned, unless their own government expressly agrees to a waiver of such immunity. The two diplomats in question, and in the Cuban case the Ambassador as well, have been declared persona non grata and expelled from Britain.

Some people will doubtless feel inclined to agree with Mr George Foulkes, Labour foreign affairs spokesman, that



Diplomat Khang Than Nham brandishes a pistol outside the Vietnamese embassy in London last week in an incident which led to his expulsion.

the expulsion of the Cuban Ambassador, Dr Oscar Fernandez-Mell, who was nowhere near the scene of the shooting incident, was an "excessive action" on the part of the Foreign Office. But officials have emphasised that the scale of the "punishment" administered under Article 9 of the Vienna Convention has been carefully calculated to fit the crime.

In the case of policewoman

Fletcher, who was considered to have been injured by a shot from the building in St James's Square housing the Libyan People's Bureau, not only were all members of the mission expelled, but diplomatic relations with Libya were broken off. In the Vietnamese case, no shots were fired, so only the diplomat brandishing the weapon was expelled and the Ambassador was allowed to remain in Britain.

On Monday, however, shots endangering the lives of innocent bystanders were fired by the Cuban Third Secretary and it was therefore deemed that stiffer measures, involving the Ambassador's expulsion, were in order.

Unwilling to advocate the amendment of the immunity provisions of the Vienna Convention which, after all, benefit British diplomats as much as they do foreign diplomats in Britain, the Government is at least determined to make clear that it will not tolerate the flouting of British law by foreign envoys. That law specifically lays down that licences to have guns will not be granted to foreign diplomats except in very special cases.

If the Government has not yet had much success in curbing diplomatic guns, judging by the events of the last few days, its tougher stance on immunity has led to a dramatic reduction of the number of unpaid parking tickets by diplomats. Only a few years ago, the number of fixed penalties for parking offences, which were waived diplomatically, reached the astonishing total of 70,000.

Diplomatic immunity is based on the ancient principle that the bearer of bad news should not be punished for his pains and that civilised relations between states are possible only if their official representatives can move about without any interference. That principle may be pushed to unacceptable limits by a very small number of envoys, but the fact remains that it allows diplomats to pack their bags and go home even in the worst of cases, such as the outbreak of war between two countries.

US gives refuge to South Africa escapees

By Jim Jones in Johannesburg

THREE of South Africa's best-known political prisoners yesterday escaped from custody and took refuge in the US consulate in central Johannesburg.

The three men were negotiating with Mr Edward Perkins, the US ambassador, although by late yesterday evening the direction of talks had not emerged.

Mr Murphy Morobe, the acting publicity secretary of the United Democratic Front, a coalition of anti-apartheid organisations, and Mr Mohammed Valli Moosa, the UDF's acting treasurer, have been held without trial in Johannesburg's Diepkloof

prison since July last year. Mr Khanyile Vusi of the National Education Crisis Committee (NECC) has been detained without trial since December 1986.

Yesterday a police spokesman confirmed the three had escaped from Johannesburg General Hospital where they had been taken from prison for physiotherapy. No details of the escape were disclosed. It is unofficially reported the three men were being held in the same prison.

Yesterday afternoon the three met other anti-apartheid activists and trade union leaders who called at the consulate. Last night an embassy offi-

cial said asylum was not offered on consular premises, but that the escapees would not be pressed to leave.

The men's arrival puts the Americans in a sensitive position. During the past few years official US policy has been to seek and foster contacts with a wide range of political activists and possible future leaders of post-apartheid South Africa.

This has necessitated what officials have described as a "scatter-gun" approach, since they admit it is impossible to know which leaders will survive the transition.

Under these circumstances it seems likely the Americans will do all they can to accom-

modate the three refugees. It is unlikely that Pretoria would allow the men to go free from the consulate. Earlier this year Mr Klaas de Jonge, a Dutch citizen who had escaped from police custody, was allowed to leave the country after more than two years of asylum in Holland's Pretoria consulate.

Mr Nelson Mandela will need six months of continued treatment for tuberculosis, according to Dr J.G.L. Strauss, the superintendent of Cape Town's Tygerberg hospital. Mr Mandela was transferred to a private nursing home two weeks ago.

US to pay UN dues

By Robert Mauthner, Diplomatic Correspondent, in London

PRESIDENT Ronald Reagan has authorized the immediate release of \$188m in US dues payments to the United Nations and has directed the State Department to work on a plan for settling all past debts, the White House announced yesterday. AP reports from Washington.

Presidential spokesman Mr Martin Fitzwater told reporters in late afternoon briefing that Reagan told the State Depart-

ment to work out "a multiyear plan" for paying a grand total of \$520m in current and past-due US payments to the world body.

Mr Fitzwater said that the United Nations "has reformed its operations to the point" where Mr Reagan felt he could release the \$44m withheld during fiscal 1988 and another \$144m withheld during the current budget year, fiscal 1989, which starts on October 1.

Silicon summit decides against Japan

Continued from Page 1

and exports. They threatened to go to Washington seeking major revisions to the trade pact.

At the face-to-face meeting, however, "it quickly became apparent that the enemy was not in the room," said one participant. "The imperative for solidarity was clear." Mr Paul Low, an IBM executive, is said to have argued strenuously for

memory chips, US semiconductor users and producers agreed to urge "extraordinary measures" by the US Government to encourage increased DRAM production in the US.

Such extraordinary measures include, according to participants in the industry summit, tax incentives and possibly anti-trust waivers to allow the formation of a DRAM production consortium jointly funded by semiconductor producers and their customers.

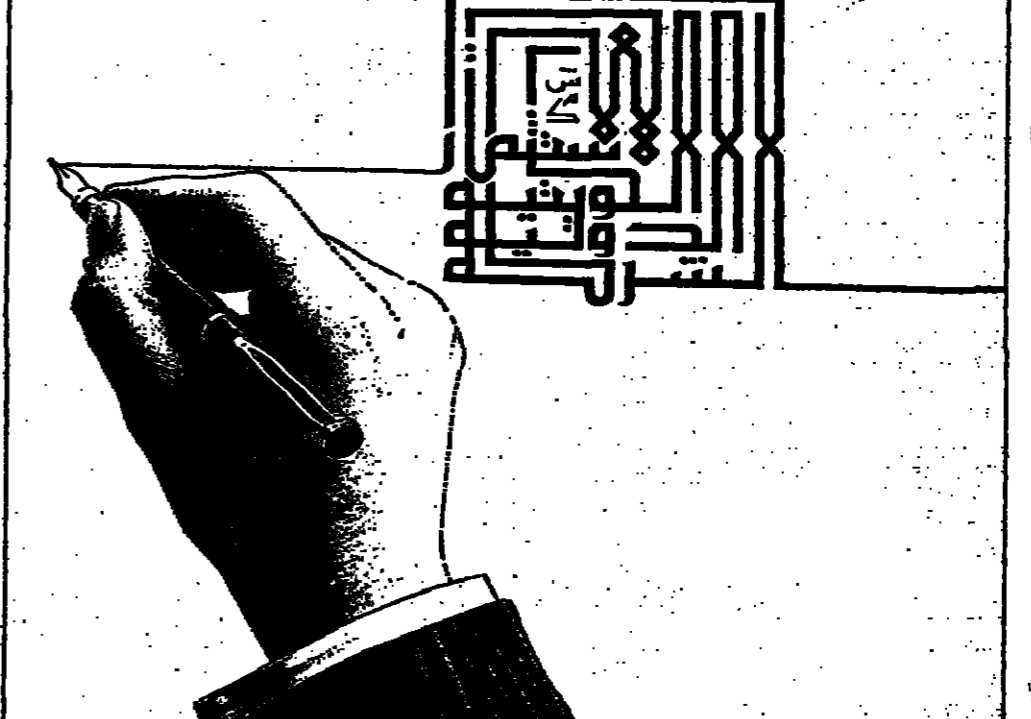
A number of US computer companies are believed to be seriously considering joint ventures in DRAM production involving equity participation, long-term supply contracts and technology exchange agreements.

At this and previous industry meetings, the goal of regaining a 40 per cent share of the world DRAM market for US chip producers was presented.

WORLD WEATHER

Location	Temp	Wind	Cloud	Precip	Humid	Visib
Algeria	16	10	B	0	65	10
Amman	18	10	B	0	65	10
Ankara	18	10	B	0	65	10
Bahia	24	10	B	0	65	10
Bangkok	28	10	B	0	65	10
Bombay	28	10	B	0	65	10
Buenos Aires	18	10	B	0	65	10
Calcutta	28	10	B	0	65	10
Cairo	18	10	B	0	65	10
Caracas	28	10	B	0	65	10
Chennai	28	10	B	0	65	10
Columbo	28	10	B	0	65	10
Dahran	18	10	B	0	65	10
Dhaka	28	10	B	0	65	10
Dublin	18	10	B	0	65	10
Hanoi	28	10	B	0	65	10
Harare	18	10	B	0	65	10
Heidelberg	18	10	B	0	65	10
Hong Kong	28	10	B	0	65	10
Islamabad	18	10	B	0	65	10
Jakarta	28	10	B	0	65	10
Jeddah	18	10	B	0	65	10
London	18	10	B	0	65	10
Los Angeles	28	10	B	0	65	10
Luanda	18	10	B	0	65	10
Madras	28	10	B	0	65	10
Mumbai	28	10	B	0	65	10
Nairobi	18	10	B	0	65	10
New Delhi	18	10	B	0	65	10
New York	18	10	B	0	65	10
Osaka	18	10	B	0	65	10
Paris	18	10	B	0	65	10
Patna	28	10	B	0	65	10
Perth	18	10	B	0	65	10
Prague	18	10	B	0	65	10
Rangoon	28	10	B	0	65	10
Riyadh	18	10	B	0	65	10
Singapore	28	10	B	0	65	10
Sri Lanka	28	10	B	0	65	10
Taipei	28	10	B	0	65	10
Tokyo	18	10	B	0	65	10
Ulaanbaatar	18	10	B	0	65	10
Washington	18	10	B	0	65	10
Zurich	18	10	B	0	65	10

IN INTERNATIONAL INVESTMENT, THIS IS OFTEN THE SHORTEST DISTANCE BETWEEN TWO POINTS.



No-one with a serious interest in international investment should take our name - Kuwait International Investment Company - as a valueless acronym.

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Market Statistics
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INTERNATIONAL COMPANY NEWS

Kroger considers \$3.8bn defence against takeover

By Roderick Oram in New York

KROGER, the second largest US supermarket chain, is exploring a plan to borrow heavily so it could pay out to shareholders some \$3.8bn in cash dividends and junk bonds.

they had received regulatory approval to buy Kroger stock helped drive up the price yesterday.

quadruple its existing long-term debt of close to \$1bn. The present debt load represents about 43 per cent of its capital.

Interest gain lifts Banco Ambrosiano

NUOVO BANCO Ambrosiano

The bank noted, however, that without extraordinary gains recorded in the first half of 1987, gross operating income was up 7 per cent in the opening half of 1988.

Motor groups steer flexible route

Kevin Done on Ford and Nissan's approach to a joint venture

The kaleidoscope of global alliances between the main players in the world motor industry has shifted again with this week's agreement by Ford, the second largest US automotive concern, and Nissan, ranked second among Japanese vehicle makers, to join forces to produce a new multi-purpose passenger vehicle in the US.

rapidly bring together different companies, on a more informal basis, for a series of single projects and in a series of locations.

Mr Harold Poling, Ford vice-chairman and chief operating officer, said the association with Nissan supported "our strategy of supplementing our internal resources without compromising our in-house proprietary capabilities in the essential core elements of our business."

Last month, Toyota broke ground for a new \$300m power train plant at its assembly complex at Georgetown in Kentucky, bringing its total investment at the site to \$1.1bn.

New legal setback for Monsanto

By Our New York Staff

MONSANTO, the US chemicals and pharmaceuticals group, has suffered its second court setback in a matter of days over a contraceptive device made by its G.D. Searle unit.

First-quarter loss for National Semi

By Louise Kehoe in San Francisco

STOCK prices of most US semiconductor manufacturers fell yesterday on news of disappointing results from National Semiconductor, a leading semiconductor and computer maker.

"Although our semiconductor operations experienced strong demand and growth in the seasonally slow first quarter, pressures on the Information Systems group continue to affect the company's operating performance."

Provigo boosts earnings

By Robert Gibbins in Montreal

PROVIGO, Canada's second largest food distributor, looks to have achieved a turnaround in its controversial catalogue merchandising chain.

Tractebel bonds sold

By Our Financial Staff

PETROFINA, Belgium's largest oil refiner and processor, confirmed yesterday that it has fully subscribed an issue of bonds with warrants for purchase of stock in Tractebel, a holding company active in telecommunications and energy.

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NOVA logo and advertisement for Cdn \$1,750,000,000 Limited Recourse Term Credit Facility for the Acquisition and Refinancing of Polysar Energy & Chemical Corporation.

ML-GT New Pacific Equities Growth Fund, N.V. advertisement by Merrill Lynch Capital Markets.

THE SUMITOMO BANK, LIMITED advertisement for U.S. \$120,000,000 2 3/4 per cent. Convertible Bonds 2000.

ALEXON GROUP PLC advertisement for Ellis & Goldstein (Holdings) PLC.

NETSON p.l.c. advertisement for notice to members of Ketsion p.l.c.

WAKO SECURITIES CO., LTD. advertisement for U.S. \$50,000,000 2 1/2% Guaranteed Notes Due 1991.

INTERNATIONAL COMPANIES AND FINANCE

Australian agency acts on metals merger plan

By Chris Sharwell in Sydney

THE TRADE Practices Commission, Australia's anti-trust agency, has called for public submissions on the plan by CRA and North Broken Hill to merge their zinc and lead businesses.

The merger would create the world's second largest zinc and lead mining and smelting company, combining the networks which link MIM of Australia, Cominco of Canada and West Germany's Metallgesellschaft.

The TPC said yesterday that the merger would also bring together Australia's only producers of zinc and lead refined lead, MIM, the other principal zinc and lead miner, produce zinc concentrates and lead bullion which it refines in the UK and West Germany.

Brierley reassesses its strengths Terry Hall on the post-crash mood of Sir Ron and his empire

SIR RON BRIERLEY, New Zealand's best-known entrepreneur at 50 is heading over the day-to-day running of his corporate empire and concentrating more on his own research into underworked assets ripe for acquisition.

At the same time, Wellington is becoming the organisational and financial control centre for the Brierley group as it reassesses its strengths after the October market crash, which forced it to make massive write-offs followed by some NZ\$3bn (US\$1.85bn) in asset sales.

As part of this evaluation, executives are discussing a possible merger of its three separately quoted constituents - Brierley Investments (BI), the Wellington-based flagship, Industrial Equity (IEL) in Sydney, and Industrial Equity Finance (IEF) with headquarters in Hong Kong.

The first step would be a merger of BI and IEL, but substantial difficulties are being encountered over tax and the ability of IEL to continue an active role in takeover activity in Australia as a foreign-owned company.

Sir Ron now spends more than half his time in the UK where he dwells over annual reports, a favourite pastime for the shy man who became obsessed with fine print and numbers when editing Stocks and Shares, a financial paper he founded soon after leaving university in Wellington in the late 1950s.

At IEL itself, Sir Ron as chairman, has handed over daily management of IEL to Mr Bruce Hancock, his deputy, and Mr Paul Collins, chief executive. Other parts of the group report to them in Wellington.

Mr Collins was what was seen as a power struggle with Mr Rod Price, chief executive of IEL, who had sought to keep the Australian side more independent.

Although Mr Price has remained and is effectively group operations manager for Australia, several other key IEL executives have resigned as their roles were absorbed into the Wellington operation.

The 51 per cent merger of BI with the 51 per cent owned IEL had been expected for early next month when BI's annual results are due.

This may now be delayed, in view of tax problems between the two countries particularly Australian capital gains tax which has no counterpart in New Zealand - and objections from IEL shareholders who do not want to accept New Zealand scrip and are demanding a cash alternative.

Despite these problems it is understood that the group is determined to proceed with a merger, which could later include IEL.

Treasury activities have already been integrated. Three years ago it was common for an IEL team to go to Europe to raise money one week, followed by a IEL delegation the next. The group headed by Mr Collins in Wellington now runs a successful foreign exchange operation and raises money internationally for all subsidiaries.

Sir Ron has become in effect the group's super-analyst. His research is almost certain to lead to further takeover activities.

He has, however, had some more time on his hands since July when he was forced by the Government to step down as chairman of Bank of New Zealand. This was over a possible conflict of interest as IEL had declared it was interested in buying the bank, which is 85 per cent owned by the state and is scheduled for privatisation.

By the time this report is published, Sir Ron will be back in New Zealand, a financial paper he founded soon after leaving university in Wellington in the late 1950s. A decade later, he had his domestic investment business up and running and was starting to become active in Sydney. IEL's development there was because of the opportunities he perceived in the larger Australian market. The group subsequently expanded into Britain and the US and Sir Ron, originally viewed as a maverick, earned his place in the New Zealand business establishment.

ICI to build polyester film plant in Japan

By Peter Marsh

IMPERIAL Chemical Industries, Britain's biggest chemicals company, is to build a \$50m (84.9m) plant in Japan to make high-quality polyester film for use in industries such as printing, electronics and photography.

Plans for the plant, announced yesterday, are aimed at strengthening the company's presence in Australia and the Far East. Last year sales in these two segments for 17 per cent of ICI's £11bn turnover, a proportion which the company says it wants to increase significantly by the 1990s.

The factory, to be built at Tama-shi, near Tokyo, should be in operation by 1990. It will have an annual capacity of 7,500 tonnes of film, which ICI markets under the Melinex trade name.

Material of this sort is seeing growing use in products like computer discs, video cassettes and specialist films for applications such as X-ray imaging, printing and reprography.

The plant will become part of ICI's performance films business, which has annual sales of about £250m. This segment of ICI already runs plants in Scotland, Holland, the US and Brazil.

The factory will operate in conjunction with a technical centre which ICI has recently opened in Utsunomiya City, near Tokyo, which is working in particular on new materials including films with applications in the electronics industry.

ICI sets particular store in working closely on electronic materials with leading companies in Japan's fast moving electronics industry.

Mr Denis Henderson, ICI's chairman, said the investment showed the company's determination to fight for growth in the Pacific region.

Ariadne stake sold BANK OF New Zealand has sold a 17.7 per cent stake in Ariadne Australia, a crash-hit investment company, to the privately owned Essington for A\$65m (US\$82.1m) - 50 cents per share, compared to a market level of 17 cents.

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Further date for Donnay offers

By Tim Dickson in Brussels

A COMMERCIAL COURT in southern Belgium yesterday set a new deadline of Friday for offers for Donnay, the country's bankrupt tennis racket maker.

In a move which was not unexpected but which further prolongs the struggle for the once high-flying sports group, the tribunal decided not to raise the bid deadline to Friday, as requested by the French businessman.

The bid had been accepted by the receivers last week. However the tribunal has authorised the receivers to find a buyer for Donnay, the country's bankrupt tennis racket maker.

There appeared yesterday to be at least six rival projects for the company, including the consortium led by Mr Bernard Tapie, another French businessman. This is supported by the French Government of Wallonia and Mr Albert Frey, the Belgian financier.

There is also another alliance with new Swiss support and headed by City 7, the communications and marketing group. This group is prepared to pay the receivers Bfr250m and to guarantee 225 to 250 jobs.

The fate of Donnay has attracted widespread European interest because of the potential which may be seen from better marketing of its high quality tennis rackets (notably its recently developed graphite model).

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Wormald reports a loss of A\$348m

By Our Financial Staff

WORMALD International, the troubled Australian fire protection and security group, incurred an attributable loss of A\$348.4m (US\$279m) in the year to June as a result of special charges followed by efforts to recover from ownership upheavals and the October crash.

The bottom-line result compares with A\$16m profits the previous year. Sales grew to A\$1,078m from A\$966.1m.

Write-offs of A\$49m brought the operating loss after tax to A\$72.4m against A\$28.5m profits. This was before an extraordinary debit of A\$27m compared with A\$14m.

The extraordinary charges were a A\$109.5m write-down of the 41m shares, or 23 per cent, which Wormald holds of its own equity. This was acquired last year when Wormald took over Sunshine Australia, the company of Mr Lee

Ming Tee. Wormald's then major shareholder. This stake is now being offered through a rights issue to other shareholders.

Other losses included a write-off of A\$74.7m on Sunshine goodwill, A\$43.5m on investments and A\$21.4m on the abandonment of an overseas investment programme. Wormald has paid no dividend this year, against a total of 20 cents per share for 1986-87.

FAI makes full bid for Met Life

By Our Financial Staff

FAI INSURANCES, Australia's biggest general insurer, yesterday bought control of Met Life Group of New Zealand and launched a full bid which values it at some NZ\$90m (US\$65.7m).

A 38 per cent stake in the company was sold by Met Life directors, while further purchases in the Wellington market took the FAI holding to 64.7 per cent.

Met Life is ranked fifth in the New Zealand life assurance market and is also involved in non-life business through Metropolitan Fire and General Insurances.

The per-share price being paid is NZ\$1.55 ex dividend. Met Life shares jumped 35 cents yesterday to NZ\$1.70.

FAI is headed by Mr Larry Adler and is one of Australia's most active investment companies. It said its bid for Met Life Group was subject to regulatory approvals.

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NOTICE OF A MEETING

of the holders of the US\$100,000,000 8 per cent Floating Rate Notes due 1996 of the Bank (the "Notes" respectively)

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NORDISKA INVESTERINGSBANKEN (Nordic Investment Bank) NB US \$20,000,000 14 1/2% per cent. Bonds due 1990

U.S. \$200,000,000 MARINE MIDLAND BANKS, INC. Floating Rate Subordinated Notes Due 2000

PNC Financial Corp U.S. \$100,000,000 Floating Rate Subordinated Notes Due 1997

Small print text at the bottom of the page containing legal notices and contact information for Helaba Frankfurt.

This announcement appears as a matter of record only.



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September, 1988



INTERNATIONAL COMPANIES AND FINANCE

SGS-Thomson's semiconductor shake-out

Terry Dodsworth reports on progress 12 months into a French-Italian merger

The development of SGS-Thomson (ST), the Italian-French semiconductor company formed in a transnational merger last year, is a good illustration of why some electronics companies have a passionate commitment to chip production and others an equally fervent desire never to enter the field.

On the one hand, semiconductor manufacturing is an exciting business, frequently regarded as a key element in any company's - or country's - efforts in electronics. ST will be a key member of the pan-European research consortium being put together to counter the rampant US and Japanese chip producers, and its executives talk enthusiastically about its "mission" to provide European users with chips made by a European-owned company.

On the other hand, competition in the field is extraordinarily fierce, characterised by ceaseless new product development, ruthless pricing and deep-pocketed Japanese and American groups. ST is having to run at a sprint just to stay in the race, with no end in sight to this headlong rush for survival.

The scale of the challenge facing the company can be seen from its first year in operation. Since ST was formed a year ago, it has charged into its reorganisation at breakneck speed, acting on the principle, says Mr Pasquale Pistorio, its Italian president, that it is better to overcome the "turbulence" of merging as quickly as

possible. In what he calls, with a touch of hyperbole, "the fastest merger in history," ST has closed or sold five factories, pushed through about 2,000 redundancies, and reorganised its production by shifting around about 100 processes.

At the end of this programme, Mr Pistorio claims to have manoeuvred the company to a point where it has begun to act as a single unit and can think about further strategic developments. The platform for this expansion includes:

- An improving profit and loss account, which includes a slight operating profit of \$50,000 in the second quarter of this year. In 1987, the combined group lost about \$200m, of which \$180m was operating costs (after interest charges and other costs), and \$70m in extraordinary write-offs associated with the reorganisation.

- This year, a \$10m operating loss in the first quarter will probably make it difficult to break even for the year. And, at a net level, ST will also have to accommodate a further \$50m of extraordinary losses.

- The combination of the two companies has given ST sufficient size to become a first division player in the future. At forecast sales of \$1bn this year, it will be the world's 13th largest semiconductor producer, employing 17,000 people and taking about 2.7 per cent of the global market.

Mr Pistorio thinks, along with many others in the industry, that a shakeout is occurring that will annihilate medium-sized companies. What will



Pasquale Pistorio: "The fastest merger in history"

be left, he says, will be a large number of small, highly-specialised businesses, and a few large, broadly-based groups, of which ST wants to be one.

Productivity has also received a big boost from the combination of rationalisation and increased sales, which were up by 25 per cent last year on the figure of the combined companies in the 1986. At the time of the merger, ST was generating \$44,000 of sales per employee a year; by this summer, the figure had reached \$62,000.

This trend has been helped by the increased emphasis on production in Singapore, where the company has taken on about 700 additional employ-

ees, and where labour rates are about \$3 an hour against \$18 an hour in western Europe.

- Capacity utilisation has been increased to about 80 per cent from 60 per cent with factory reorganisation.

Mr Pistorio is well aware that ST's restructuring has been assisted by the strength of the market over the past year. Indeed, one of his anxieties is that demand may slump next year in line with steadily more bearish forecasts. If sales do slip, he concedes that there may have to be further rationalisation, and it will mean that the next stage of his growth programme will be even more difficult to push through.

ST has set itself some tough targets. First, it needs to increase productivity still further. US semiconductor companies generate about \$60,000 a year per employee, some 30 per cent more than ST, and the Japanese are on average producing more than \$100,000 per person.

Second, the company wants to bridge the one yardstick gap in its geographical spread and establish itself in Japan. Next year, more than 50 per cent of its output will be sold outside Europe, but Japan, now the biggest national market in the world for semiconductors, takes less than 1.5 per cent of its output. Mr Pistorio is aiming at some sort of partnership to give ST a foothold there.

Third, the company wants to expand its product portfolio to include dynamic random access memories (DRAMs) and

microprocessors. Mr Pistorio argues that a broadly-based semiconductor company needs to be able to offer both these families of chips.

They are often a key element in a customer's purchases, and they each play an important part in the complex sets of chips that are becoming increasingly common in the industry. Here again, it is difficult to see how ST can achieve its aims without partnerships and manufacturing both of these products is prohibitively high.

All of this will also require financing. The group's financial position in the immediate future will be helped by a new \$100m capital injection from its two partners, which will leave it with a balance sheet showing about \$50m of equity and \$50m of debt. Following the reorganisation, the group's operations are now strongly cash generating.

The planned expansion over the next five years, however, is bound to make some demands on ST's shareholders and lenders, even without any unforeseen acquisitions. Although Mr Pistorio will not be precise, the company is aiming to expand to between sales of \$2m and \$2.5m by 1993.

About 65 per cent of this, he says, should be fundable from internal resources. The rest is likely to come, in roughly equal amounts, from the debt markets and from further equity injections by the parent companies.

AN EXCELLENT FIRST HALF FOR HALL ENGINEERING

HIGHLIGHTS OF THE 1988 UNAUDITED INTERIM RESULTS

	SIX MONTHS TO 30.6.88 £000	SIX MONTHS TO 30.6.87 £000	
TURNOVER	72,977	66,485	UP 10%
PROFIT BEFORE EXCEPTIONAL ITEMS	4,713	3,582	UP 32%
EARNINGS PER SHARE BEFORE EXCEPTIONAL ITEMS	19.81p	14.77p	UP 34%
DIVIDEND PER SHARE	5.5p	4.6p	UP 20%

Prospects for the remainder of the year are very encouraging and should justify the substantial capital investments currently being made in additional premises and new manufacturing plant.

R.N.C. Hall Chairman

Copies of the full announcement, which is being sent to all shareholders on 16th September, 1988, are obtainable from The Secretary, Hall Engineering (Holdings) P.L.C., Harlescott Lane, Shrewsbury SY1 3AS. Tel: (0743) 235541.

Bongrain in agreed \$140m Wilson bid

By Our Financial Staff

BONGRAIN, the French producer of prepared meats and cheeses, has made an agreed \$140m bid for Wilson Foods, valuing the Oklahoma City-based ham producer at about \$140m.

The bid tops a hostile \$125 share bid for Wilson by Doskocil of the US. Bongrain made its offer through International Fish and Meat (IFM), the recently formed holding company for the Bongrain family's fish, meat and sausage interests.

The agreed deal comes less than a week after IFM announced the acquisition of an abattoir in Georgia from ConAgra, the diversified US foods and agricultural products group. Both moves are part of a strategy to expand IFM's US food processing operations.

"This offer has been solicited and approved by Wilson's board to counter Doskocil's unfriendly attempt to take control of Wilson," Bongrain said. Doskocil had said last week it intended to extend the

expiry date of its bid to midnight September 19 from September 15.

Bongrain said the bid for Wilson was intended to consolidate its development in the US since Wilson had a national distribution network with annual turnover of about \$1.4bn and 5,000 employees. Wilson has had a chequered history since it was spun off in 1981 from LTV, the US steel and energy group. Weighed down by heavy debts and high wage rates, the company filed for protection under Chapter 11 of the US Bankruptcy Code in April 1988.

It emerged from Chapter 11 two years later amid a restructuring that has turned the company from a hog slaughterer into a meat processing company. It has the leading share of the US boneless ham market.

Bongrain posted 1987 attributable net profits of FF222.7m (\$45m) against FF252.7m in 1986, but last year the company recorded a L100m profit on total sales of L400m. A final decision on the various offers is expected later this week.

Montedison bids for SIR

By Alan Friedman in Milan

MONTEDISON, the Italian chemicals company which is 42 per cent owned by the Ferruzzi group, yesterday announced that it had made a tender offer to acquire SIR, an unquoted specialty chemicals and textiles business which for eight years has been under special government-appointed administration.

The Montedison offer, in a sealed envelope, has been presented to a committee of government-appointed directors. The value of the offer has not been revealed, but it is understood to amount to slightly more than the other

handful of bids that have been filed, or something above the L150m (\$108.8m) mark.

SIR is a company that manufactures resins, composite materials, cosmetics, detergents and textiles for furnishings. The company was near bankruptcy in 1980 and was placed under a government administration.

SIR chalked up losses of L3,650bn between 1979 and 1986, but last year the company recorded a L100m profit on total sales of L400m.

A final decision on the various offers is expected later this week.

Lauritzen group stays in the red

By Hilary Barnes in Copenhagen

HEAVY losses by its Danyard shipbuilding group kept the Lauritzen shipping, shipbuilding and manufacturing group in the red in the first half.

The group reported a Dkr38m (\$5.4m) half-year loss on turnover of Dkr4.5bn compared with a loss in the same period last year of Dkr78m on turnover of Dkr4.1bn.

The shipping division, which operates a fleet of refrigerated cargo vessels, made a substantial recovery and was ahead of the budget, said the interim statement.

Its manufacturing divisions also recovered. The group said its troubled shipyard business was expected to be close to break-even in the second half.

Havas battle nears end

By George Graham in Paris

A MONTH-LONG tug of war over the fate of Havas, the privatised French advertising and communications group, was nearing its conclusion last night with a balance of forces between three groups of shareholders.

Havas announced that five representatives of a new bloc of shareholders, led by Canal Plus, the French pay television channel, would be proposed for its board, counterbalancing five representatives of the "hard core" of shareholders chosen by the last Government at the time of the group's privatisation.

The proposal, which will need the approval of an extraordinary shareholders' meeting, would add a further two board members representing state insurance companies,

one representative for individual shareholders, one for the group's employees and Mr Pierre Deuzier, Havas's chairman.

The "hard core" and board of Havas were viewed - even by supporters of the right-wing Government of Mr Jacques Chirac - as too glaringly designed to ensure the group was controlled by friends of the prime minister's RPR party.

The group of "hard core" shareholders chosen by Mr Chirac's finance minister, Mr Edouard Balladur, was led by Lyonnaise des Eaux, the municipal services group headed by Mr Jerome Monod, and the two privatised banks Paribas and Societe Generale.

The new Socialist Government has been keen to set up a

counterweight to this group, using the nationalised insurance companies IAP and AGF and the state financial institute Caisse des Depots, and Canal Plus.

Mr Andre Rousselet, chairman of the successful coded TV channel, is a former close adviser of President Francois-Mitterrand and was chairman of Havas until the arrival of the Chirac Government in 1986.

Canal Plus's group of shareholders is thought to include Generale des Eaux, the rival of Mr Monod's group, L'Oreal, the cosmetics company, and Mr owned by Neslé, and the GNF mutual insurance group.

It is not clear whether Mr Robert Maxwell's UK press group, which was at one point believed to own nearly 5 per cent of Havas, will remain involved.

Progress at Venezuela oil group

By Joseph Mann in Caracas

PETROLEOS de Venezuela (PDVSA), Venezuela's national oil company, has continued to show good results for the first half of 1988 in spite of lower international oil prices.

The state-owned company reported net income of \$628.1m for the first half of 1988 on total revenues of \$4.73bn. In comparison, PDVSA earned net profits of \$1.42bn for all 1987 on revenues of \$10.5bn.

Mr Julio Cesar Gil, Venezuela's minister of energy and mines, said that crude oil production in the first half of 1988 averaged 1.57m barrels per day (b/d), while production of condensates averaged 178,000 b/d and natural gas liquids 95,000 b/d.

Venezuela exported an average of 1.58m b/d of crude oil and refined products during the half-year.

The average exports price for the period was \$12.55 per barrel, against \$17.57 for all 1987.

No figures were made public on the performance of PDVSA's extensive investments in oil refining and distribution systems in the US and Europe but PDVSA said privately that these companies were performing "very well" and had proved a wise investment.

This announcement appears as a matter of record only.



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S. G. Warburg & Co. Ltd. announce that the redemption instalment of Bonds due 15th October, 1988 for a nominal value of US\$937,000 has been met by purchases in the market.

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15th October, 1987

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10210 11022 11045 11068 11090 11113

11272 11295 11318 11341 11364 11387

11510 13120 13201 13224 13246 13269

17795 34605 34628 34651

15th October, 1986

84 7946 7843

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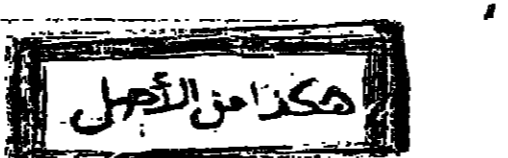
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September 14, 1988, London
By: Citibank, N.A. (CSS Dept.), Agent Bank CITIBANK



INTERNATIONAL COMPANY NEWS

Banque Indosuez up 46% to FF514m

BANQUE Indosuez, the French banking group, boosted net income for the first half of 1988 by 46 per cent on a combination of one-time gains and improved profit from market-related operations. AP-DJ reports from Paris.

The wholly owned bank unit of Cie. Financiere de Suisse also said it made a big increase in provisions for loan risks that brought its coverage to about 40 per cent of its loans outstanding to countries in the debt rescheduling process.

Alexandre Jeunevert-Gabigiani, Indosuez president, said the rise in first-half earnings to FF514.8m (\$81.7m) from FF353.2m year earlier was based on improved operating profits as well as non-recurring gains that added FF152.5m to earnings, up from only FF52.6m in the first half of 1987.

Raine plays for referral of Tarmac bid

By Andrew Hill in London.

RAINE INDUSTRIES, the UK housebuilder, yesterday unveiled its strategy for the final stages of its hostile bid for Ruberoid, the British roofing materials group, gambling on the possibility that a recommended counter-bid from Tarmac would stumble over monopolies problems.

Raine's bid was due to close today, but the group said yesterday it would extend its main cash-and-shares offer at least until October 11, or until a decision was taken on whether to refer the £14m (\$240m) cash counter-bid from Tarmac, the UK building materials and construction group, to the Monopolies and Mergers Commission.

Raine, which is not going to increase its bid, also invited Ruberoid shareholders to accept the cash alternative.

Colgate-Palmolive to sell health division for \$960m

By Our Financial Staff

COLGATE-PALMOLIVE, the second largest US detergents and toiletries producer, is to sell its Kendall Company health care unit and related businesses for \$960m to privately-held Clayton and Dubilier, a leverage buyout (LBO) specialist.

New York-based Clayton and Dubilier said the company is planning to make the leveraged buyout has the equity participation of Kendall management members. It added that the transaction is the largest buyout the firm has yet undertaken but the size was a reflection of new trends in the LBO market.

Kendall, based in Boston, has been a wholly owned subsidiary of Colgate-Palmolive since 1972 and is among the top five US health care product companies. The businesses being acquired had sales of about \$350m in 1987.

Kendall manufactures and supplies disposable medical products to hospitals, alternate site healthcare facilities and the rapidly growing home healthcare market in 61 countries. It has more than 10,000 employees worldwide.

Colgate-Palmolive had announced in April that it planned to sell its health care

segment, which had total sales last year of \$1bn, against \$994.5m in 1986, and unchanged operating profit of \$92.8m. The aim of the divestiture was to allow greater financial flexibility for global consumer product opportunities and to reduce debt.

Yesterday Colgate said it anticipates it will have an after-tax gain of \$200m from the sale of the Kendall unit to the buyout group. Kendall has recently been restructured and decentralised to improve growth opportunities and profitability of individual business units.

Airlines of Britain profits soar

Michael Donne, Aerospace Correspondent, in London

THE AIRLINES of Britain Holdings group, which include British Midland Airways, earned pre-tax profits of nearly £7.6m (\$12.5m) in the first half of this year, compared with £702,000 in the first half of 1987, on turnover up from £62.57m to £82.93m.

The profit from airline operations was up from £105,000 to more than £1.2m but the bulk of the improvement came from profits on the sale and subsequent lease-back of six McDonnell Douglas DC-9 twin-engine jet airliners.

Mr Michael Bishop, the chairman, said that the continuing strength of the UK economy had been fundamental to the improvement in airline profits. Passengers carried had risen from 1.16m to nearly 1.65m.

British Midland had expanded vigorously, with the Heathrow to Amsterdam service achieving profitability. Seven more jet airliners were being introduced by the airline in the second half-year to meet rising demand on scheduled

services.

Mr Bishop said that Loganair had also recorded a significant improvement in results, while Manx Airlines continued to develop its route network to the Isle of Man, and achieved an increase in loads and continuing profitability.

Although the performance of London City Airways had been affected by the temporary suspension of services from the new London City Airport in Docklands last winter, traffic was now recovering.

UK lift truck maker jumps to £4m

By Nick Garnett in London

LANCER BOSS, the UK's second-largest lift truck maker, has continued its sharp recovery after poor results in the mid-1980s.

The family-owned company yesterday reported pre-tax profits on ordinary activities of £4.07m (\$6.93m) in the year to March on turnover up 20 per cent to £106.2m. That compares

with a profit of £266,000 in 1987 and a £2.4m loss in 1986.

Retained profit for the year at £3.1m compares with £346,000 for the previous year and a £900,000 loss in 1986.

Sir Neville Bowman-Shaw, chairman and majority shareholder in Lancer, said prospects for the present year were very good. The company

makes lift trucks, sideliftr vehicles and narrow-aisle warehousing equipment.

Sir Neville said a sales rise of 20 per cent to 25 per cent had been forecast, but that the estimate might prove conservative. Profits would probably rise at a steeper rate.

However, he said he expected a downturn in the market towards the end of next year.

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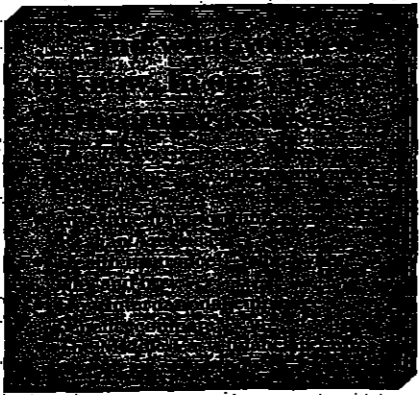
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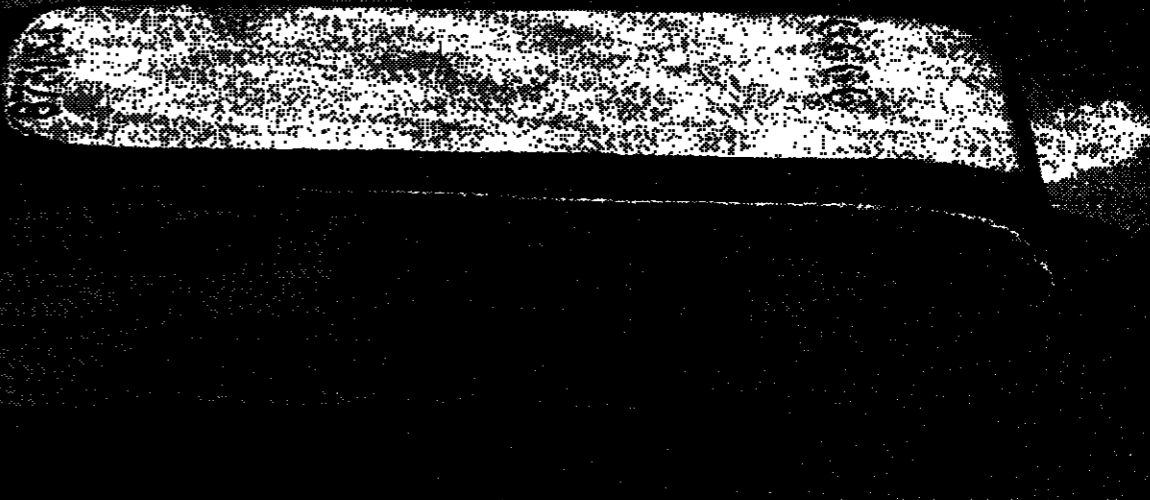
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INTERNATIONAL CAPITAL MARKETS AND COMPANIES

Price war breaks out among Eurobrokers

The men who fix the deals are slashing commissions. Our Euromarkets Staff reports

Fees charged by Eurobond brokers - the firms who match buyers and sellers among dealers in the Eurobond market - have been slashed by up to 40 per cent in the past three months...

Holdings last year, but the deal fell through in February. B&C has filed suit against Quadrex and has yet to find another buyer...

may decide on a change of tactics. In the past, they have traditionally and deliberately not disclosed their prices to anyone other than professional dealers...

The price war in the Eurobond market is only partly a reflection of the advent of a newcomer. But it also reflects the increasing difficulty that securities houses have in making a profit...

going to let Fundamental buy market share," said the head of one brokerage firm which moved quickly to cut its fees.

Saatchi & Saatchi in \$450m CP move

By Stephen Fidler, Euromarkets Correspondent

SAATCHI & SAATCHI, the British advertising and business services group, has arranged commercial paper programmes in the Eurobond and sterling markets to a maximum size of \$450m.

UBS seeks ruling on issue procedures

By Our Euromarkets Staff

THE MARKET practices committee of the International Primary Markets Association, which groups Eurobond underwriters, is scheduled to meet today to consider two contentious issues that are dividing the Eurobond business...



Rudolf Mueller calls for Merrill Lynch consensus

examining the make-up of IPMA's board of directors. Its chairman is Mr Armand Marz, also managing director of UBS Securities.

\$150m issue from IBM meets with brisk demand

By Dominique Jackson

TWO NEW straight US dollar Eurobonds, initially expected on Monday, finally emerged early yesterday as syndicate managers took advantage of a period of relative calm in the markets as most dealers awaited today's US trade report for July.

Secondary trading was generally subdued, with only limited position squaring detected ahead of the data, although dollar denominated bonds showed a marginally firmer edge, boosted by falling oil prices.

straight languished somewhat in the shadow of the IBM deal. BZW brought Tate & Lyle, the UK sugar refiner to the market, also with a four-year deal at 9 1/2 per cent and 10 1/4, for an initial spread at launch of 32 basis points over comparables.

market. However, the lead manager pointed out that the company is now swiftly reinforcing its international profile, particularly in Europe, following last week's announcement of closer links with C&I, the major European cereal, starch and sweetener group...

report, a correctly priced deal is virtually guaranteed a fair reception as most accounts are buying bonds to reweight their portfolios with little consideration for short term currency volatility.

INTERNATIONAL BONDS

ble US Treasuries. The issue was a refinancing of existing debt incurred when the company took over Staley Continental of the US.

Notwithstanding the often sensitive timing of issues, in this case ahead of the US trade

Yamaichi wins Swiss bank licence

YAMAICHI SECURITIES, the Japanese securities house, will offer a full range of financial services from October 1 at a subsidiary bank in Switzerland after receiving a banking licence from Swiss banking authorities, writes Our Financial Staff.

(Switzerland) is being formed to take over the activities of Yamaichi (Switzerland).

FT INTERNATIONAL BOND SERVICE

Table listing international bonds with columns for Issuer, Maturity, Coupon, Yield, and Price. Includes sections for US Dollars, Sterling, and other currencies.

Advertisement for Repap Enterprises Corporation Inc. featuring a logo and text: 'US\$100,000,000 Multicurrency Loan Facility', 'Arranger and Agent Bank: SBCI Swiss Bank Corporation Investment banking', 'Co-Arranger: Swiss Bank Corporation (Canada)', 'Lead Managers: Banca Commerciale Italiana of Canada, The Bank of Tokyo Canada, Banque Nationale de Paris (Canada), Commerzbank Aktiengesellschaft, Fuji Bank Canada, Istituto Bancario San Paolo di Torino, Kredietbank International Group, Mitsubishi Bank of Canada, Swiss Bank Corporation (Canada), Westdeutsche Landesbank Girozentrale'.

German dealers introduce variable trade

By Our Financial Staff

WEST GERMANY'S eight stock exchanges are to quote bond prices during the course of a variable trade. The new system will start on October 3, according to the working committee of the Federation of German Stock Exchanges.

A total of 26 widely traded public bonds will be dealt on a variable basis similar to shares. This will be in addition to the usual price fixing, in which prices are set one after the other with the Bundesbank assisting in smoothing operations.

Table listing international bonds with columns for Issuer, Maturity, Coupon, Yield, and Price. Includes sections for US Dollars, Sterling, and other currencies.

UK COMPANY NEWS

Harland Simon shares gain 30p as Mountain Dew increases its stake

Mr Birol Nadir, 24, eldest son of Mr Asil Nadir, chairman and chief executive of Polly Peck International, has emerged as a substantial shareholder in Harland Simon, maker of computer control systems used mainly in the newspaper industry.

Crown Communications makes offer for remaining 41.8% of LBC

CROWN COMMUNICATIONS, the former Crown Television Productions, is making a recommended offer for the 41.8 per cent of London Broadcasting Company (Holdings) that it does not already own, writes Philip Suggan.

Egerton US listing Boost for Kerry

Egerton Trust, the acquisitive construction and property group, is arranging an American Depository Receipt listing in the States. The company, whose business is split between the UK and US and which has recently been building up its Stateside aggregate interests, said yesterday that this had no bearing on the previously mooted possibility of seeking a listing for Egerton Inc., its American holding company.

Stewart Wrightson integration completed

Willis Faber static at £45m

WILLIS FABER, insurance broker, yesterday turned in marginally lower pre-tax profits of £45.16m compared with £45.5m in the six months to June 30.



David Palmer - merger benefits beginning to develop.

and the benefits had begun to develop, he said, particularly in Willis Wrightson, the UK

retail broking company, and in the North American operations. All the insurance broking subsidiaries had acquired new business in the period, often due to enhanced facilities following the merger.

Savoy Hotel drops 40% to under £5m

THE SAVOY HOTEL, proprietor of some of London's finest hotels, including the Savoy itself, Claridges and the Connaught, yesterday reported a sharp decline in profits and earnings for the six months to the end of June.

Bernard Matthews hit by turkey loss

By Fiona Thompson

BERNARD MATTHEWS, turkey and meat products group, yesterday reported a drop in pre-tax profits from £11.1m to £4.97m for the half year to July 17, 1988. Earnings per share fell from 3.12p to 2.26p.

North America had resulted in volatility in the animal feed market.

The tax charge was reduced to £1.6m from £2.14m. An interim dividend of 1p (0.625p) has been declared.

Quite simply, there were just too many whole birds around at the start of the year, so prices suffered. The industry, though not so much Matthews, put a lot of money into advertising whole turkeys over Easter and the glut declined. Prices are now better in the

run up to the all important Christmas period. Matthews' strategy is to concentrate on value added items, hence cutting out product lines where it finds it difficult to do so.

DIVIDENDS ANNOUNCED

Table with columns: Company, Current payment, Date of payment, Corresponding dividend, Total for year, Total last year.

Dividends shown pence per share net except where otherwise stated. Equivalent after allowing for scrip issue. 10p capital increased by rights and/or acquisition issues. \$USM stock. \$S in quoted stock. Third market. For four-month period. All figures in Irish currency.

BOARD MEETINGS

Table with columns: Company, Date, Chairman, Secretary.

Acquisitions and efficiencies aid Hall Eng

By Andrew Hill

HALL ENGINEERING, metal stockholder and processor, returned pre-tax profits of £4.7m in the six months to June 30. This compared with £5.13m, including a £1.55m exceptional gain, in the first half of 1987.

possible purchases in the fields of steel stockholding, processing and distribution, metal pressing and plastic labelling.

Hall added that prospects for the rest of the year looked good and should justify the capital investment being made in additional premises and new manufacturing plant.

Although the City seemed impressed by Hall's results, the share price was unchanged at 360p. The group would suffer if there was a downturn in the construction and civil engineering industry, but enjoys a degree of protection both in the spread of its activities and

the fact that Rom River, one of its main competitors in the reinforcements field, is currently diverting most of its output to the Channel Tunnel. This leaves Hall free to take advantage of improved margins from the British Reinforced Concrete subsidiary, by servicing the remaining customers. Other divisions have also been trading strongly and analysts are looking for full-year pre-tax profits of up to £10m.

London and Bishopsgate lifts New Tokyo stake

By Nikki Tait

LONDON AND Bishopsgate Holdings, the private investment management company owned mainly by Mr Robert Maxwell and Lord Donoughue, has raised its stake in New Tokyo Investment Trust to 27.6 per cent.

Advertisement for Maccoss Management Buy-Out of County NatWest Ventures. Includes details of £20,000,000 management buy-out, equity arranged by County NatWest Ventures Limited, and contact information for solicitors and accountants.

Brake Brothers up 35% to £3.83m

By Clara Pearson

BRAKE BROTHERS, supplier of frozen foods to the catering industry, increased pre-tax profits by 35 per cent to £3.83m on sales up 42 per cent to £58.5m in the six months to June 30.

adapted to the company's requirements. This will add further manufacturing capacity for "own dishes", which account for about 7 per cent of sales.

has pleased the market with its progress since it was floated in late 1986. Nobody knows how fast UK sales of frozen foods to the catering industry are growing, but Brake, which achieved a 25 per cent increase in sales - stripping out Scotia - in the first half, must have increased its market share.

Of the three depots purchased in 1987 (aside from the Brighton site is now making a contribution. Brake has recently purchased a further site close to the satellite at Motherwell in Scotland, or which it plans to build a "substantial" cold store. This should be operational by mid 1989.

Brake had about £5m in cash at the end of June, Mr Champion said. Capital expenditure is expected to come to about £7m this year, split evenly between the two halves.

Brake is however unwilling to say how many more have been added, or how the mix has changed. Analysts expect pre-tax profits of about £9.5m this year. This puts the shares on a prospective p/e of about 16, largely reflecting the thinness of the market, since 75 per cent of the equity is held by the three Brake brothers. But the company says there are no plans to sell any existing, or issue more, shares.

Ivernia West share issue

By Fiona Thompson

IVERNIA WEST, gold exploration and production company, is to raise £575,000 (£577,000) through the issue of 2.5m new shares at 30p in a placing with shareholder entitlement. Ivernia, sponsored by Goodbody James Capel, has also applied for a listing on the Third Market. The placing is conditional upon Stock Exchange permission for the shares to be dealt in on the

Hibernian jumps 51%

HIBERNIAN GROUP, Dublin-based general insurer, increased pre-tax profits by 51 per cent from £2.75m to £4.15m (£3.5m) in the six months to June 30, 1988. Premium income was £57.57m, compared with £51.61m previously and underwriting losses were reduced from £9.56m to £7.39m. Investment income rose slightly to £1.54m (£1.3m). After tax of £1.2m (£1.37m) earnings came through at 4.5p (2.7p). The interim dividend is 1.4p. The directors said profits of £4.8m on the sale of investments had been treated as movements on reserves

Stake in West Hampshire Water clarified

By Andrew Hill

Biwater, private water contracting and engineering group, said yesterday that the 25.19 per cent stake in West Hampshire Water Company belonged to Biwater itself and was not acquired through Biwater Supply, as incorrectly announced to the Stock Exchange on Monday.

Advertisement for Thompson Clive Investments plc. Details the placing by Schroders of 3,231,710 ordinary shares of 50p each at 115p per share. Includes contact information for J. Henry Schroder Wagg & Co. Limited and Thompson Clive Investments plc.

Polly Peck offer

Polly Peck International, UK-based international trading and manufacturing group, said in Hong Kong that it planned to make a public offer of about 62m shares, with warrants attached, in its local subsidiary in the next few weeks.

UK COMPANY NEWS

Armstrong Equipment profit falls to £7m

By Fiona Thompson
SEVERELY underestimating the price of materials and the cost of out-sourcing components has resulted in Armstrong Equipment...

Mr Watts stressed that swift action had been taken to rectify the situation, including management changes and bringing in consultants to provide back-up.

WPP boosts Belgian presence

By Nikkai Tait
WPP, the acquisitive advertising agency and marketing services company, is boosting its Belgian advertising agency presence...

Jacques Vert expands women's wear interests

By Alice Rawsthorn
JACQUES VERT is expanding its women's wear manufacturing interests by acquiring a clothing factory in Yorkshire from Parkland...

Gaskell over £1m mark

SALES AND profits both increased by more than 60 per cent at Gaskell Broadloom, manufacturer of carpets and floor coverings...

Mayborn increases

An exchange gain of £267,000 relating to the repayment of a \$1m bank loan was treated as an exceptional credit and helped Mayborn Group produce a 19 per cent improvement...

D C Cook purchase

D C Cook, USM-quoted motor retail services group, has entered the north-east England car sales market through the acquisition of the freehold properties and stock of Vic Young's Garage...

Acquisitions lift Corton

BOOSTED by acquisitions Corton Bensch, multi-conglomerate, which moved up the Third Market to the USM in June, reported interim pre-tax profits more than doubled from £206,000 to £1.6m.

BRITISH AEROSPACE INTERIM REPORT 1988

CHAIRMAN'S STATEMENT

I have now been Chairman of British Aerospace for one year and I am pleased to be able to report that your Company has continued to make considerable progress during that time.

RESULTS

Sales for the first six months at £1865 million were slightly lower than the equivalent period last year, due principally to the incidence of aircraft deliveries.

SECTOR PERFORMANCE

The defence systems businesses were buoyant with a strong order book and satisfactory profits secured from a range of premium products successfully marketed against other international competitors.

AIRBUS INDUSTRIE

The Airbus product range represents exciting new aerospace technology; the new products have achieved outstanding sales success in fiercely competitive international markets.

ORGANISATION

In the past few months important changes have taken place in the organisational structure of British Aerospace to bring it into line with the changing pattern of the Group's business.

OUTLOOK

Your Board is looking forward to the future expansion of British Aerospace. We shall continue to exploit new opportunities that hold profit earning potential and pursue policies that will improve the competitiveness of the total business.

CONSOLIDATED RESULTS

Table with 4 columns: From 1st January to 30th June 1988, 1st January to 30th June 1988, 1st January to 30th June 1987, Year to 31st December 1987. Rows include Turnover, Cost of sales, Trading profit, etc.

NOTES

Table with 4 columns: 1st January to 30th June 1988, 1st January to 30th June 1987, Year to 31st December 1987. Rows include Civil Aircraft, Military Aircraft and Support Services, etc.

Note 2 Trading Profit

Table with 4 columns: 1st January to 30th June 1988, 1st January to 30th June 1987, Year to 31st December 1987. Rows include Civil Aircraft, Military Aircraft and Support Services, etc.

Note 3 Launching Costs

Launching costs comprise design and development which is written off as incurred, except in the case of certain Airbus programmes where such expenditure is covered by HM Government launch aid.

Note 4 Taxation

The taxation charge comprises UK and overseas taxation and taxation on the share of profits of related companies.

BRITISH AEROSPACE

11 Strand, London WC2N 3JT

The Directors of British Aerospace

The Directors of British Aerospace, other than Mr. J. Graham Day, are the persons responsible for the information contained in this interim report.

Confident Iceland up 30% to over £4m

Mr Malcolm Walker, chairman, said prospects for 1989 looked encouraging, as 25 new stores - an unusually high number - were already firmly committed.

Interlink at £5.8m and plans expansion

INTERLINK EXPRESS, the franchised overnight parcel distribution and delivery company, said yesterday it would benefit both directly and indirectly from the effects of the postal strike.

ICELAND FROZEN Food Holdings increased pre-tax profits by 36 per cent to £4.1m in the half year to July 31, on a 37 per cent rise in turnover to £26.1m.

Mr Malcolm Walker, chairman, said prospects for 1989 looked encouraging, as 25 new stores - an unusually high number - were already firmly committed.

MTL tops £1m midway

IN ITS first report since coming to the UK in March, MTL Instruments, maker of electrical safety and measuring devices, saw pre-tax for the six months to end-June rise by 49 per cent to £1.12m, against £788,000.

Osprey profits rise sharply

Profits advanced strongly at Osprey Communications in the year to May 31 1988 and yesterday it announced the acquisition of Corporate Counsel, public relations and marketing company for an undisclosed sum.

SHARE STAKES

The following changes in shareholdings have been recently announced: Biomechanics International - USM Investments has sold 2.72m ordinary (7.5 per cent).

HUNTER PLC SHAREHOLDERS. Attention Hunter PLC Shareholders. Recommended Offer for Hunter PLC ("the Offer"). Special receiving arrangements for forms of acceptance. The first closing date for acceptances of the Offer is Saturday, 17th September, 1988.

UK COMPANY NEWS

US growth planned as Macro 4 rises 34%

By Philip Coggan
 MACRO 4, computer software company, yesterday revealed a 34 per cent increase in pre-tax profits to \$5.51m in the year to June 30.
 Last year, the company abandoned a US purchase because of the stock market crash, and there was an extraordinary debit of \$400,000 relating to abortive acquisition costs.
 Nevertheless, Macro 4 is spending between \$800,000 (\$470,000) and \$1m on US expansion, opening three new regional offices and launching a full marketing programme.
 Foreign exchange movements were adverse last year but the company operated a hedging programme, designed to protect it against a declining dollar. The programme earned Macro 4 \$225,000 over the year.
 Macro 4 rents software in its customers and the repetitive rental content of turnover last year was over 94 per cent, with the average monthly rental increasing from £156 to £163.
 Turnover increased just over 28 per cent to £11.01m (\$3,922m). Pre-tax profits were made up of operating profits of £5.52m (\$3,512m) and interest received of £486,000 (£296,000). After tax of £2.13m (£1,562m), earnings per share were 15.5p (11.7p). The final dividend is 2.3p (1.75p), making a total of 3.9p (2.9p).

COMMENT
 It is easy for the market to become blasé about companies with good track records, which insist on growing organically rather than via endless acquisitions. Macro 4's strength - its rental base - gives it a quality of earnings that few others can match. But another set of excellent figures yesterday left the shares unchanged at 283p. In the short term, they may prove unexciting. This year, the company's planned investment in the US is set to bring its growth rate down to 20 per cent, rather than the 30-40 per cent to which the market is accustomed. Many British companies have burnt their fingers in the US, but Macro 4 has plenty of transatlantic experience and it seems likely that growth will be back in the 30-40 per cent range next year. On that basis, a prospective p/e of 15.5, assuming pre-tax profits of \$6.7m this year, does not look demanding.

**City remains cautious despite 38% profits growth
 Ward White motors to £27.7m**

By Maggie Urry
WARD WHITE, DIY and car parts retailer, yesterday reported a near-38 per cent increase to £27.7m in pre-tax profits for the six months to end-July. Mr Philip Birch, chairman, said the results reflected buoyant trading in the group's main businesses.
 Sales were some 6 per cent lower at £342.3m, a decline explained by disposals. Excluding these, sales rose by 23 per cent, Mr Birch said.
 During the half year, the sale of three operations raised \$51m and caused an extraordinary gain of £17.1m. These and earlier disposals also reduced debt, bringing the interest charge down to £3.1m (8.7m).
 Mr John Sharp, finance director, said he expected balance sheet gearing at the year end to have fallen to 17 per cent, against 33 per cent last December and 82 per cent at the previous year end.



Philip Birch - buoyant trading in main businesses.

Group operating profits rose by 17 per cent to £30m. In the DIY division, sales rose 58 per cent to £133.1m and operating profits by 70 per cent to £15.8m, indicating higher margins.
 The integration of Maseley's, bought in November 1987, was now complete, Mr Birch said, and the purchase in June of A G Stanley had made a post-interest contribution of around £700,000. Mr Birch said a new format for Stanley shops under the Homestyle banner would go on trial later this month.
 Halfords, UK car parts business, showed a 19 per cent sales increase to £85.3m and operating profits 53 per cent up at £5.1m. Mr Birch said the bulk of the group's £50m capital expenditure plans would be directed at the UK DIY and car parts business.
 In sterling terms operating profits of the US autoparts shops were barely higher at

Earnings per share rose 28 per cent to 9.2p basic and 34 per cent to 10.5p fully diluted. The interim dividend is up 15 per cent to 3p.

COMMENT
 The City's disenchantment with Ward White meant that, despite beating expectations, the shares were unchanged at 270p yesterday. Although the period of rapid sales and purchases of businesses is now largely over with the firm establishment of the three legs, there are constant fears of further acquisitions with consequent share issues. The reduction in gearing is some comfort and there are undoubtedly more disposals to come as well as acquisitions. However, even on the more optimistic forecasts of around £85m pre-tax and a prospective p/e of under 9, there appears to be little investor interest in the shares.

Buoyant conditions boost Scottish Heritable to £4.4m

By Ray Bashford
SCOTTISH HERITABLE Trust, the industrial holding company, lifted pre-tax profits 37 per cent to £4.4m during the six months to June 30 1988.
 Earnings per share rose 16 per cent from 6.2p to 7.2p and directors have boosted the interim dividend from 2p to 2.5p.
 UK property and house building activities benefited from the buoyant industry conditions and were the biggest contributors to the improvement.
 Property development projects in London's West End were the strength behind the property division's improvement, supported by steady returns from the company's stock of flats in London and Glasgow.
 Pre-tax profit from the UK housebuilding division, which operates in York, Peterborough and North Wales, rose 20 per cent, however the returns during the second half are expected to be 15 per cent ahead.

The company's oriental carpet importing business retained market leadership although altered trading conditions in the US caused a slowdown in pre-tax profits.
 The US housebuilding activities, centred on Haven Homes, the modular homes group based in Nashville, returned a steady contribution with the board expecting an increased return during the present six months.
 The quarrying and packaging divisions, which are up for sale, also showed increases, although they have both been underperforming for some time.
 The pyrotechnics operations lost money, in line with the previous corresponding half, however the cyclical nature of the business assures a strong contribution to the annual result, directors said.

COMMENT
 Scottish Heritable is a mini-conglomerate steering a more steady course than many towards expansion. A 15 per cent growth in earnings is not sneered at, however, as Mr Robin Garland said yesterday the company is "not out to win the world tomorrow." An acquisition up of to £50m appears well within reach and directors have been actively exploring many possibilities. A decline in gearing from 100 per cent to about 60 per cent by the end of the year heightens the possibility of a cash acquisition. The sale of the quarrying and packaging divisions, as foreshadowed, which could net about £5.5m would help clean up the rather confused collection of businesses and narrow the group's focus to more profitable areas. The US is figuring heavily in the company's plans and the purchase last month of a 25.14 per cent stake in Rangaire Corporation, the Texas-based industrial company with a Nasdaq listing, provides the opportunity to drag together its US housebuilding and quarrying interests. The company can expect pre-tax profits of £12.5m for the year, for a prospective p/e of 8.5.

Thompson Clive finally set for market debut

By Philip Coggan
THOMPSON CLIVE Investments, an investment trust specialising in venture capital, is joining the main market after abandoning a previous flotation attempt because of last year's stock market crash.
 The fund is one of four managed by Thompson Clive & Partners, a group established in 1977 by Mr Richard Thompson and Mr Colin Clive. The TCI fund was set up in 1990 and has invested in a wide spread of technology-based companies.
 Its most successful investments were in DPCE, Isotron and Microlec, all of which obtained stock market quotations. DPCE was recently taken over by Granada, and TCI's holding in Granada represents 37.6 per cent of the net asset value of the fund. Together, Granada, Isotron and Microlec constitute 61 per cent of the portfolio.
 In all, TCI has investments in 44 companies, many of them unquoted, with a total valuation of £17.5m at June 30. Net assets per share of the fund have grown from 61.3p at the end of 1982 to 174p at June 30 this year.
 Schroders is placing 3.22m shares, 25.2 per cent of the equity at 115p each; at the placing price, the shares are at a 26.8 per cent discount to the fully diluted net asset value of 157p per share. TCI will have a market capitalisation of £14.7m.
 The fund, which will be aiming for capital growth, has only one class of equity and no wind-up date.

Invergordon advances to £3.86m at halfway

INVERGORDON DISTILLERS (Holdings) saw pre-tax profits rise by almost 50 per cent to £3.86m in the six months to end-June. Sales, excluding duty, increased to £25.71m, a rise of 29 per cent.
 However, tax almost doubled to £1.62m (£863,000) because of write-down of goodwill attached to trade marks connected with stocks purchased from a whisky trader were not allowable against tax. Earnings came out at 9.74p (7.56p) and the interim dividend is raised to 2.25p (1.75p).
 Invergordon said that demand for grain whisky fillings was firm and sales of malt whisky fillings improved.

Blended Scotch whisky sales, both at home and abroad, increased.
 It added that the pattern of trading suggested that the results in the second half would continue to show an improvement.
 Trading profit was £4.24m (£3.18m) and the pre-tax figure was struck after interest charges of £574,000 (£585,000). Dividends absorbed £517,000 (£400,000), leaving increased retained profit for the period of £1.72m against £1.33m.
 Invergordon is 65 per cent owned by Hawker Siddeley. Recently there has been speculation that it may dispose of its holding to a possible bidder.

Sun Life advisers defend rights fees

By Richard Waters
ADVISERS TO Sun Life Assurance, UK life insurer which earlier this week announced a 262m rights issue, yesterday denied that their fees of £4.5m for the deal were excessive.
 The one-for-seven issue, at 600p per share, was at a 50 per cent discount to the market price. Sun Life told shareholders that part of the reason for this deep-discount, non-underwritten issue was to save on fees.
 Mr Kit Farrow, a director of

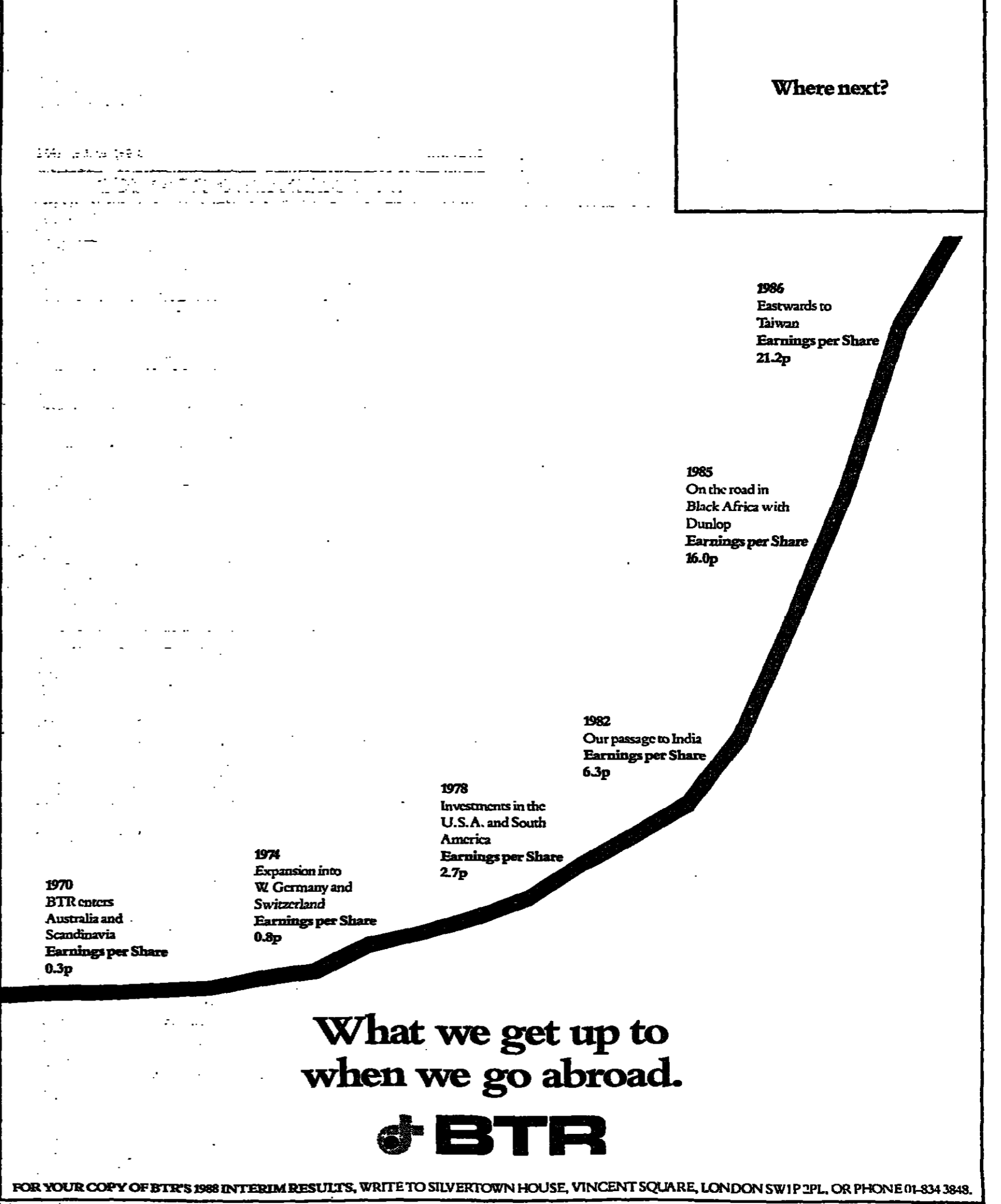
Kleinwort Benson, which advised on the deal alongside Lazard Brothers and Rowe & Pitman, said yesterday that the £4.5m covered far more than advice on the rights issue.
 Kleinwort had been involved since earlier this year on advising Sun Life on its strategy, he said. This culminated in the cross shareholding with French insurance group Union Des Assurances de Paris. Lazard was also involved in planning the deal as co-adviser to the company.

Kleinwort's share of the £4.5m was "broadly a third", said Mr Farrow. Mr Richard Davies, a director of Lazard, declined to reveal how much his bank had been paid.
 Mr Peter Grant, Sun Life chairman, is himself a former deputy chairman of Lazard. Shareholders will vote on the proposed increase in Sun Life's capital, which includes the creation of 13m new shares worth £158m for issue to UAP, at an extraordinary meeting on September 29.

De Morgan to acquire Retail Group for £1.9m

DE MORGAN, surveying group, is acquiring the Retail Group, retail management consultancy, for a maximum of £1.9m.
 The company said that the acquisition would enable it to offer a complete property pack- age to the retail sector.
 Last year the Retail Group made profits of £55,000.
 Initial consideration, in the form of de Morgan shares, will be £150,000 plus the value of the Retail Group's tax losses.

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WORLD ECONOMY

The Financial Times proposes to publish a Survey on the above on

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HUGH SUTTON

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TECHNOLOGY

A scarlet sign saying "4 Hours" hangs over the portable computer assembly line at Toshiba's Ome factory, on the edge of Tokyo's urban sprawl. That means four hours a day of compulsory overtime for the full-time production workers, extending their working day from 9 am to 9 pm, with an hour's lunch break.

Even the so-called part-time "housewife" workers are being asked to work two hours overtime a day, according to Tsuneaki Okada, manager of the Ome factory. Dressed in the production line uniform of dove-grey coats and blue caps, these women fit components into Toshiba's lap-top computers from 9 am to 6 pm.

The computers are assembled by hand, although robots are used elsewhere in the factory (to make printers, for example). Okada says that robots "are not flexible enough" to cope with the short production runs and frequent change-over model which characterise computer manufacturing.



Toshiba software engineers using laptop computers for conventional desktop work

The lap-tops that mean business

Clive Cookson reports on Toshiba's role in developing the portable computer

However, most employees at Ome are not manual workers but white collar engineering and administrative staff (their uniform is beige and bur-gundy). They work even longer hours, often from 7 am to 11 pm.

These long working days - which seem excessive even by Japanese standards - are the result of the strong international demand for its lap-top computers. Although the company did not invent portable computers, it has done more than any other to pioneer the development of personal computers which are light enough to carry and powerful enough to use as serious business machines.

Assessing the competitive position of companies in the portable computer market is difficult because there are no generally accepted definitions of such terms as portable, lap-top, huggable, transportable and mobile. Toshiba says it sold 170,000 lap-tops outside Japan last year, giving it a third of the international market. Current production levels at the Ome factory (30,000 lap-tops per month) suggest that sales may double this year.

Ironically, Toshiba is doing better in Europe, where it has no computer manufacturing facilities, than in the US, where it makes 10,000 lap-tops per month at a factory in California. Half of the lap-top computers sold in Europe last year were made by Toshiba, according to Intelligent Electronics/Dataquest, the Paris-based analysts.

In the US, where Toshiba claims 25 per cent of the lap-top market, it faces more effective competition from American manufacturers such as Zenith and Grid. The company has also suffered from adverse publicity in the US about illegal sales of submarine technology to the Soviet Union by a subsidiary, Toshiba Machine Company.

Toshiba's main rival at the heavy end of the portable market is Compaq of the US, though the American company's 20 lb "tombbox" portable machines are less easy to lug around than Toshiba's most powerful 18 lb "briefcase" style computers.

According to the research company Romtec, Toshiba and Compaq have about 40 per cent each by value of the US market for "mobile computers", which was worth \$27m in the second quarter of 1988. This is based on a fairly wide definition of mobile, including both battery powered lap-top computers and larger transportable machines, such as Compaq's, which need to be plugged into an external power supply.

A wide range of technological improvements over the last three years has contributed to

the sudden popularity of portable computers. Most important has been the development of clear slim-line screens to replace the bulky cathode ray tube (CRT) used in conventional desk-top terminals.

Gas plasma screens give the clearest display, orange on black, which is suitable for fine computer graphics work. Unfortunately, however, they consume too much electricity to run on batteries, so gas plasma screens are used only in the bigger, mains powered "transportable" computers.

Battery powered lap-tops have liquid crystal display (LCD) screens - generally blue on white. These are rapidly becoming more readable. The latest models are improved by back-lighting and their contrast is improved by rotating the pixel units by more than the conventional 90 degrees (the jargon word for this effect is supertwist). But LCD still looks fuzziest than gas plasma or CRT.

Toshiba and some of its competitors are expected to launch lap-top computers with full col-

our LCD screens within two years. A full colour gas plasma display will take perhaps two to three years, according to Tetsuya Mizoguchi, technology executive in Toshiba's computer systems group.

The miniaturisation of electronic components has also been vital for the development of portable computers. The latest memory and processor chips are far smaller than their predecessors and use less electricity. In contrast to the rapid progress towards lower power consumption, however, there has been relatively little improvement in battery performance.

Today, Toshiba adds two new models to its range of IBM-compatible portable computers (after a three month delay caused by the world-wide shortage of memory chips).

At the top is the mains powered T6200, based on Intel's 80386 microprocessor running at 20 MHz (this means that the internal clock controlling the machine ticks 20m times a second). The T5200 has a gas plasma screen, an internal memory of two megabytes (MB) extendable to 8 MB and built-in hard disk storage capacity of either 40 MB or 100

MB. This combination of speed and memory should be powerful enough to run almost any software designed for desk-top personal computers.

The other new model, the T1600, has a liquid crystal display (LCD) and a slower microprocessor, the Intel 80C286, operating at 12 MHz. It can run on batteries for between one and six hours and, weighing 14 lbs, it could be used on a traveller's lap. However, the T1600 may soon face formidable competition from Compaq, which is expected to announce its first battery powered computer later this year.

Now that the portable computer market has taken off, many analysts expect it to maintain an annual growth rate of 50 per cent or more for several years. Toshiba predicts that a quarter of all personal computers sold in 1990 will be portables - and the company aims to hold on to at least 25 per cent of that market.

Toshiba is Japan's third largest and the world's tenth largest manufacturer of electronics and electrical products, according to Fortune magazine. Like the other big Japanese electronics companies, it is changing its global business strategy in response to the long-term appreciation of the yen and pressure from Europe and the US to reduce Japan's trade surplus.

Toichi Aoi, President of Toshiba, says: "We are shifting from the previous strategy of increasing exports from Japan to a strategy that promotes direct overseas investment and technology transfer." This involves setting up research, development and manufacturing facilities outside Japan.

Toshiba executives are planning expansion through what they call a Triad Network (presumably they are not trying to invoke the sinister image of the Chinese Triad gangs). The company's network will have three arms: Toshiba in Japan (responsible for Asia), Toshiba America and Toshiba Europe (based in Düsseldorf and also responsible for Africa and the Middle East).

However, compared with other Japanese companies like NEC, Fujitsu, Sony and Hitachi, it has been slow to develop business links with and production facilities in Europe.

Toshiba makes videos and televisions in Plymouth, England, and copiers and microwave ovens in France, but says it has not yet decided when and where to manufacture computers in Europe. Meanwhile its arch rival Compaq continues to turn out portable computers at its Scottish plant near Glasgow.

Journeys mapped out on screen

THE BOSCH electrical group of West Germany is about to launch a vehicle navigation system called Travelpilot.

It will be introduced in Germany, the UK, France and Holland during the first six months of next year. The price in the UK will be about £1,500. Bosch has already won a contract from Heris, the car rental company, to equip some fleets.

Travelpilot provides the driver with a map on a 12 cm screen, which initially shows the whole route. The map zooms in on the remaining roads to be covered as the journey proceeds.

Two miles from the destination, streets are identified and, where the information is available, such problems as one way systems shown.

Maps will be held in digital form on CD-ROM (Compact Disc Read Only Memory), an optical disc more similar to CD music discs.

The driver plugs in a disc that covers the whole of the country - later western Europe - and enters start and destination points on a keyboard. His or her position is pin-pointed on the map as the journey proceeds (to a claimed accuracy of 30 yards or 100 metres). The direction of travel is upwards and the map rotates slightly, although it can be fixed. The system chooses the best route, but the driver can manually fix to see local detail.

Travelpilot is based on sensors, fitted to the wheels to measure distance, and an electronic compass. The two give a dead-reckoning system and Bosch says that cumulative error is corrected by reference to the internal map data.

The company believes Travelpilot's major advantage is that only on-board equipment is needed. Its immediate use is not dependent on the build-up of an external infrastructure, such as roadside radio beacons.

The price of the disc has not been fixed yet, but is unlikely to be more than £30.

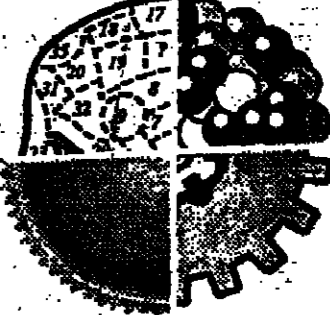
Strategic Defence Initiative (SDI)

It should be able to pin-point incoming missiles in the presence of decoys and against a background of stars and other infra-red radiation.

The system, which contains 36,000 infra-red detecting devices, has been delivered to Boeing Aerospace, prime contractor to the US Army for feasibility studies in the use of optical sensors to detect strategic missiles.

The array of sensors will be used in the focal plane of an optical-telescopic system with a pointing and stabilising system and digital signal processors. A wide field of view enables the system to scan considerable areas of space at long ranges.

Data coming out of the array calls for signal processing at rates of up to 150m operations a second. This is said to be a thousand times greater than the previous best optical surveillance systems. The task is equivalent to reading the Encyclopaedia Britannica 13 times in one second.



WORTH WATCHING

Edited by Geoffrey Charlish

Science and education. The full results of the 1988 Home Survey are about to be published by Dataquest.

New pattern to laser engraving

ZED Instruments of Herts, in the UK, has an improved laser engraving method that will speed production of the flexographic printing plates widely used in wallpaper and textile printing plants. The better standard of printing could take the process into quality packaging markets.

The rubber printing rolls, sleeves and plates are often produced by laser engraving, but to get the pattern into the surface, an intermediate photographic film image has been used. The film image is scanned optically and the information used to drive a carbon dioxide laser engraving head.

ZED Instruments has developed a system in which a computer-aided design (CAD) computer is coupled straight into a cutting head powered by a carbon dioxide laser from Electron, part of the Q06 Group.

Apart from saving time, the system yields better quality because there is no potentially degrading intermediate image and no problems with dust on the film.

An important advantage is that the CAD system can be remote from the production plant and the image sent over a phone line. Software for many popular CAD systems is available.

CONTACTS: Bosch: UK office, 0956 23233; Hughes Aircraft: US, (213) 589 7200; Dataquest: London office, 379 6557 or in the US on (408) 527 5000. ZED Instruments: UK, 0452 228577.

PC use in the US

DATAQUEST, the market research group, has found that about 15 per cent of people in the US use a personal computer at home, after polling 2,700. The proportion is about the same as last year.

Many of the users, however, have shifted up market. Previously, 57.4 per cent of home systems cost more than \$1,000, but now the percentage is 43.7. Many made a jump from a system worth less than \$500 to one costing more than £1,000.

Dataquest believes many more machines are now being used to operate businesses from home.

Commodore machines accounted for 22.5 per cent of all those in use, followed by Apple at 17.4 per cent and IBM at 14.3 per cent. Then follow Tandy, Texas Instruments, Compaq, Leading Edge, Atari, Kaypro and AT&T. Other manufacturers account for 21.5 per cent.

Word processing remains the dominant application of PCs at home, although there has been a slight drop. Dataquest's management and spreadsheet sales are still built as popular, but both have increased since 1987. Games are now the fourth most common application, followed by graphics, household

Tracking missiles in space

IN THE US, Hughes Aircraft has developed an infra-red sensing system which marks an important step towards detecting and tracking long range ballistic missiles in the

ENERGY BLUEPRINT

HELPING BUSINESS MAKE MORE OF ITS ENERGY

Hotel stores up benefits

Initially developed for use in the home, GEC Nightstor boilers that use low-cost night-rate electricity are now benefiting a wide range of commercial premises.

These boilers first appeared some five years ago as a replacement for existing home central heating systems to meet a demand caused especially by the high cost and insecurity of oil supplies.

Success with domestic applications



led to the development of boilers in a range of sizes suitable for commercial use. Larger installations can be supplied by connecting boilers in tandem.

Premises switching to Nightstor from oil or solid fuel benefit from the cleanliness of electricity and the ending of fuel storage and delivery problems. The compact Nightstor unit can normally be accommodated within the premises, often in place of the previous boiler.

Typical of commercial users to benefit is The Nash Hotel on the edge of the South Downs at Sizing, West Sussex, where heating and hot water used to be supplied by an oil-fired boiler and two Aga cookers.

After advice from South Eastern Electricity, the hotel installed two Nightstor electric boilers for space heating with separate storage cylinders for hot water. It was a great improvement.

The Nightstor boilers, directly supplying the existing distribution pipework and radiators, have a core of special heat-retaining bricks in a well-insulated casing. Overnight the bricks are heated by electric elements passing through them. When heat is required, air is circulated over the bricks and through a heat exchanger, which transfers the heat to water serving the radiators.

So satisfied was the proprietor that she has now replaced the Aga cookers with an all-electric kitchen.

The electric boiler system has not only reduced heating costs but proved very reliable with no need for a regular maintenance contract, released space for a building extension and, not least, eliminated the smell of oil.

For more information tick coupon box 1.

Spotlight on heat savings

Quartz linear heaters installed by Sunbury Metal Pressings Ltd of Southall, Middlesex, have proved the value of this new concept in space heating.

Unlike ordinary heaters, quartz linear heaters emit short wavelength energy in a 'spotlight' of instant heat, so energy is not wasted warming surrounding unused areas of a building.

When Sunbury Metal Pressings moved into adjacent premises, they originally intended to install gas-fired overhead fan heaters. The most economical and efficient solution, however, turned out to be 30kW of quartz linear heating - a third of the load required for a gas-fired warm air system.

With quartz linear, response is im-

mediate and no pre-heating is needed. After a pre-set period, the nine individually controlled heaters switch to half-heat for maximum economy.

Quick to install, the system has improved the work environment and running cost savings are calculated to be around £1,000 per annum.

For more information tick coupon box 2.



Ice rink warms pool

Energy savings of £60,000 a year have been achieved from a heat recovery system installed at Thamesdown Borough Council's Link Centre at West Swindon, built two years ago to provide a comprehensive range of sporting and leisure facilities, from squash to snooker. The centre was awarded the 1987 national BETA trophy for energy efficiency in buildings over 1,000 square metres.

A competition-size ice rink at the centre is the main source of heat for the remainder of the complex. Heat recovered from the ice rink's refrigeration compressors is used to heat the water in the swimming pool and also for space heating and hot water services.

The swimming pool hall has two heat recovery dehumidifiers and the pool is equipped with ozone water treatment which eliminates eye irritation and the 'swimming pool smell' associated with chlorine water treatment. Capital cost of the chillers, pumps and pipework for the ice rink heat recovery plant was some £39,000. Annual energy savings were £60,000. For more information tick coupon box 3.

Please send me leaflets/information on the following topics:

Ticks appropriate 1. Electric boilers 2. Quartz linear heaters 3. Electric heat recovery systems.

Name _____

Position _____

Company/Address _____

C/394 Postcode _____

Please send the coupon to: Electricity Publications, PO Box 2, Central Way, Feltham, Middlesex TW14 0TG.

PLANELECTRIC
Energy for Life
The Electricity Council, England and Wales

FOREIGN
Dolla
NEW YORK
LONDON
CURRENCY RATE
CURRENCY MOV
OTHER CURRENC
MONEY MAR
UK ra
ahead

FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

Table listing various unit trusts such as Aberdeen Growth, Abbey Unit Trust, and others, with columns for name, price, and other financial details.

I.G. INDEX LTD, 9-11 GROSVENOR GARDENS, LONDON SW1W 0BD. Tel: 01-828 7233/5699. Reuters code: IGIN, IGIO.

JOTTER PAD: A grid for handwritten notes with a header 'JOTTER PAD' and a grid of boxes.

CROSSWORD No. 6733 Set by QUARK

Crossword puzzle grid with numbers indicating starting positions for words.

ACROSS: 1 He deals with the early deliveries (7.7), 2 Brief is contribution to bar-rister's evidence (6), 3 Cream going off? (9), 4 Play upsurge? (7), 5 One-time sea-rover losing right to make amends (7), 6 Required to provide for guests? React with uncertainty (6), 7 Cook soup or ham (no particular pattern) (9), 8 Tenner tip could be appropriate here (9), 9 Some well-made carriages in comeback went at speed (5), 10 One going up in society - such as Rose? (7), 11 Loud 'US' place? Fud-dy-duddy seen there? (7), 12 It's not ideal if temper is violent about first sign of clash (9), 13 It's essential to predict useful stroke (5), 14 But the grass should still be short here! (2,3,4,5), 15 DOWN: 1 One 29 would be near this (9), 2 Precise about English? That's relative (5), 3 Invite one to order such a state? (9), 4 Spring necessitates rubbish collector with extremes of garbage (5).

Solution to Puzzle No. 6733: A grid of words corresponding to the crossword puzzle, including 'POMANDER', 'OPPOSITE', 'ROUN', 'ARV', 'LIMPET', 'IGIO', 'USABLE', 'MAY', 'EVERYTHING', 'REASON', 'RATED', 'REDEI', 'REMEMBERED', 'PARKS', 'REVE', 'SARKER', 'PERV', 'CHOPPY', 'IGNITION', 'U', 'ELOC', 'MORALE', 'APPLAUS', 'MEG', 'HUAU', 'NUDITY', 'FLASHMAN'.

GUIDE TO UNIT TRUST PRICING: A section explaining the methodology for unit trust pricing, including details on bid prices, offer prices, and the impact of market movements.

Handwritten signature or note at the bottom of the page.

Handwritten note in Arabic: "معلوماتنا الأصل"

FT UNIT TRUST INFORMATION SERVICE

Main table containing financial data for various unit trusts, including columns for fund names, managers, and performance metrics.

INSURANCES

Table listing various insurance companies and their details, including names, addresses, and contact information.

OTHER UK UNIT TRUSTS

Table listing other UK unit trusts, including names, managers, and performance metrics.

Continued on next page

FT UNIT TRUST INFORMATION SERVICE

Main table containing unit trust information with columns for Name, Price, Yield, and other financial metrics. Includes sections for various fund categories and management services.

MANAGEMENT SERVICES

Table listing management services provided by various firms, including names and contact information.

OFFSHORE AND OVERSEAS

Table listing offshore and overseas investment opportunities, including fund names and details.

UK LISTED

Table listing UK-listed investment funds and their performance metrics.

OFFSHORE INSURANCES

Table listing offshore insurance services and providers.

Handwritten note in Arabic script: "معلوماتنا الخاصة"

FT UNIT TRUST INFORMATION SERVICE

LONDON SHARE SERVICE

Handwritten note: "لنا من الاجل"

Table of FT Unit Trust Information Service, columns include Name, NAV, % Change, and other metrics.

Table of Other Offshore Funds, columns include Name, NAV, % Change, and other metrics.

Table of London Share Service, columns include Fund Name, Price, Yield, and other metrics.

Table of Money Market Trust Funds, columns include Fund Name, NAV, % Change, and other metrics.

Money Market Trust Funds

Money Market Bank Accounts

UNIT TRUST NOTES: Prices are in pence unless otherwise stated...

Money Market Bank Accounts: AAB-Billed Arab Bank Ltd...

LONDON SHARE SERVICE

AMERICANS - Contd

Table listing American companies such as IBM, AT&T, and General Electric with their share prices and market data.

BANKS, HP & LEASING

Table listing financial institutions and leasing companies like Citicorp, Bank of America, and Sun Life.

BEERS, WINES & SPIRITS

Table listing beverage companies including Heineken, Carlsberg, and various wine producers.

BUILDING, TIMBER, ROADS

Table listing construction and infrastructure companies like Bovis Lend Lease and Bovis Lend Lease.

BUILDING, TIMBER, ROADS - Contd

Continuation of the Building, Timber, and Roads sector table.

CHEMICALS, PLASTICS

Table listing chemical and plastic companies such as ICI, Shell Chemicals, and Hoechst.

DRAPERY AND STORES

Table listing retail and drapery companies like Debenhams and Next.

BUILDING, TIMBER, ROADS

Continuation of the Building, Timber, and Roads sector table.

ELECTRICALS

Table listing electrical engineering companies like Balfour Beatty and British Telecom.

ENGINEERING - Contd

Continuation of the Engineering sector table.

ENGINEERING

Table listing various engineering firms.

ENGINEERING

Continuation of the Engineering sector table.

ENGINEERING - Contd

Continuation of the Engineering sector table.

FOOD, GROCERIES, ETC

Table listing food and grocery companies like Unilever, Nestle, and Borden.

HOTELS AND CATERERS

Table listing hotel and catering companies like Whitbread and Whitbread.

INDUSTRIALS (Miscel.)

Table listing miscellaneous industrial companies.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INDUSTRIALS (Miscel.) - Contd

Continuation of the Industrials (Miscel.) table.

INSURANCES

Table listing insurance companies like Prudential and Sun Life.

LEISURE

Table listing leisure and entertainment companies like British Skyways and British Skyways.

LEISURE

Table listing leisure and entertainment companies.

LEISURE

Table listing leisure and entertainment companies.

Handwritten text in a box at the bottom of the page.

Handwritten note in Arabic script at the top center of the page.

LONDON SHARE SERVICE

LEISURE - Contd. Table listing various leisure-related companies and their share prices.

PROPERTY. Table listing property-related companies and their share prices.

TEXTILES - Contd. Table listing textile companies and their share prices.

TRUSTS, FINANCE, LAND - Contd. Table listing trusts, finance, and land companies.

OIL AND GAS - Contd. Table listing oil and gas companies.

MINES - Contd. Table listing mining companies.

MOTORS, AIRCRAFT TRADES. Table listing motor and aircraft trade companies.

Commercial Vehicles. Table listing commercial vehicle companies.

Components. Table listing component companies.

Garages and Distributors. Table listing garage and distributor companies.

NEWSPAPERS, PUBLISHERS. Table listing newspaper and publisher companies.

PAPER, PRINTING, ADVERTISING. Table listing paper, printing, and advertising companies.

SHOES AND LEATHER. Table listing shoes and leather companies.

SOUTH AFRICANS. Table listing South African companies.

TEXTILES. Table listing textile companies.

TOBACCO. Table listing tobacco companies.

TRUSTS, FINANCE, LAND. Table listing trusts, finance, and land companies.

Investment Trusts. Table listing investment trusts.

Finance, Land, etc. Table listing finance, land, and other companies.

Oil and Gas. Table listing oil and gas companies.

Mines. Table listing mining companies.

Overseas Traders. Table listing overseas trader companies.

Plantations. Table listing plantation companies.

Teas. Table listing tea companies.

Mines. Table listing mining companies.

Central Rand. Table listing Central Rand companies.

Eastern Rand. Table listing Eastern Rand companies.

Far West Rand. Table listing Far West Rand companies.

D.F.S. Table listing D.F.S. companies.

Diamond and Platinum. Table listing diamond and platinum companies.

Central African. Table listing Central African companies.

Finance. Table listing finance companies.

Oil and Gas. Table listing oil and gas companies.

Australians. Table listing Australian companies.

TOBACCO

TRUSTS, FINANCE, LAND

Investment Trusts

Finance, Land, etc

Oil and Gas

Mines

Overseas Traders

Plantations

Teas

Mines

Central Rand

Eastern Rand

Far West Rand

D.F.S.

Diamond and Platinum

Central African

Finance

Oil and Gas

Australians

OVERSEAS TRADERS

PLANTATIONS

Rubbers, Palm Oil

Teas

MINES

Central Rand

Eastern Rand

Far West Rand

D.F.S.

Diamond and Platinum

Central African

Finance

Oil and Gas

Australians

Miscellaneous

THIRD MARKET

NOTES

REGIONAL & IRISH STOCKS

TRADITIONAL OPTIONS

Industrials

Property

Oils

Mines

A selection of options traded is given on the London Stock Exchange Report Page.

This service is available to every Company listed on the London Stock Exchange for a fee of 500p per annum for each security.

LONDON STOCK EXCHANGE

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

Table with columns: EQUITY GROUPS & SUB-SECTIONS, Tuesday September 13 1988, Mon Sep 12, Fri Sep 9, Thu Sep 8, Year ago (approx). Rows include CAPITAL GOODS, BUILDING MATERIALS, CONTRACTING, etc.

Table with columns: FIXED INTEREST, PRICE INDICES, Day's change, Mon Sep 12, etc. Rows include British Government, 5 years, 10 years, etc.

RISES AND FALLS YESTERDAY

Table with columns: Rises, Falls, Same. Rows include British Funds, Corporations, Industrials, etc.

LONDON RECENT ISSUES

Table with columns: Issue, Amount, Latest, 1988, etc. Rows include A.C. Ridge, B.P. Group, etc.

FIXED INTEREST STOCKS

Table with columns: Issue, Amount, Latest, 1988, etc. Rows include A.C. Ridge, B.P. Group, etc.

RIGHTS OFFERS

Table with columns: Issue, Amount, Latest, 1988, etc. Rows include A.C. Ridge, B.P. Group, etc.

TRADITIONAL OPTIONS

Table with columns: Issue, Amount, Latest, 1988, etc. Rows include A.C. Ridge, B.P. Group, etc.

LONDON TRADED OPTIONS

Large table with columns: Option, Calls, Puts, etc. Rows include Allied Lines, B.P. Group, etc.

NOTICE OF EARLY REDEMPTION

North American Philips Corporation

NOTICE IS HEREBY GIVEN that, pursuant to the Fiscal and Paying Agency Agreement dated as of October 15, 1984 between North American Philips Corporation (the "Company") and Morgan Guaranty Trust Company of New York...

PAYING AGENTS

- Morgan Guaranty Trust Company of New York, 30 West Broadway, New York, New York 10015. J.P. Morgan Nederland N.V., 12 Tesselshadedstraat, 1054 ET Amsterdam, The Netherlands.

NORTH AMERICAN PHILIPS CORPORATION

Dated: September 14, 1988

Under the Interest and Dividend Tax Compliance Act of 1983, we may be required to withhold 20% of any gross payments made within the United States to certain holders who fail to provide us with, and certify under penalties of perjury, a correct taxpayer identifying number...

CHINA

The Financial Times proposes to publish this survey on: 12th December 1988. For a full editorial synopsis and advertisement details, please contact: Simon Timmis on 01-248 8000 ext 3276 or write to him at: Bracken House 10 Cannon Street London EC4P 4BY

FINANCIAL TIMES

NOTICE TO HOLDERS OF

Lorimar Telepictures Corporation

Lorimar Telepictures Corporation ("Lorimar") has entered into an Agreement and Plan of Merger dated as of May 18, 1988 (the "Merger Agreement") with Warner Communications Inc. ("Warner") and L.T. Acquisition Corp., a wholly owned subsidiary of Warner ("Merger Sub")...

NOTICE TO THE WARRANTHOLDERS OF

TOBU RAILWAY CO., LTD

U.S.S. 100,000,000 1 1/4% Guaranteed Notes 1982 with Warrants (the "Warrants of 1982") and U.S.S. 300,000,000 4 1/4% Notes 1983 with Warrants (the "Warrants of 1983") to subscribe for shares of common stock of the Company.

SEUL

OLYMPIC SPORTS PRICES ON REUTERS GAME SSP OVERSEAS BETTING

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange. It does not constitute an invitation to any person to subscribe for or purchase shares.

J.W. WASSALL P.L.C.

following the adoption of proposals in connection with Admission to the Official List including: The Acquisition of Evertaut Contracts Limited and A. S. Toome & Sons Limited. A 7 for 1 Rights Issue of 10,920,000 new Ordinary shares at 125p per share.

NOTICE TO THE HOLDERS OF BANK OF TOKYO, LTD.

U.S. \$100,000,000 1 1/4% per cent. Convertible Bonds Due 2002. Pursuant to Clause 6(c) of the Terms and Conditions of the Bonds, the Trust Deed dated April 26, 1987 under which the subject Bonds were issued, notice is hereby given as follows:

EQUITY & GENERAL PLC

The Financial Services and Motor Distribution Group. INTERIM STATEMENT FOR HALF YEAR TO JUNE 30TH 1988. Unaudited six months to 30th June 1988: Turnover 15,555, Net profit 1,007.

Vertical text on the right edge of the page, including 'Royal', 'Lasma', and other fragments.

LONDON STOCK EXCHANGE

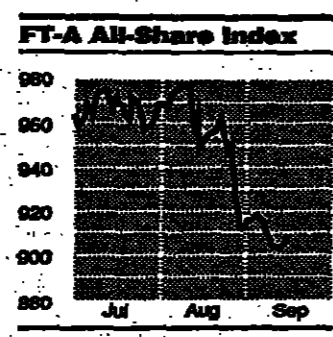
Buoyant oils lead market advance

The London equity market took a more positive step forward yesterday, posting strong gains across the board after a market improvement in sentiment and turnover. Government bonds, despite closing with only minor gains, also had a confident look.

with a sustained rally in crude oil prices, triggered major gains in the oil sector and encouraged a much healthier performance across the market.

Gas raid on Lasso splutters

BRITISH GAS gave a glow to early equity trading, sending brokers Hoare Govett into the market to try to purchase 14.75 per cent of the 2.7m shares of independent oil group LASSMO at 480p a share.



date scheduled for the next trading. Soon afterwards frenetic activity developed, not only in the shares of LASSMO, but also in Enterprise where the former holds 25.4 per cent and ICI 25 per cent.

Account Dealing Dates table with columns for Dealings, Options, and Last Dates.

market, including numerous bid rumours and a long list of major company news items in the former category leading retailer Sears were prominent while Delta were put up as a possible bid target for RTZ.

At issue was the effect of the supply of computer memory chips on Amstrad's sales forecasts, with analysts agreeing that a loosening of the continuing supply problems would allow Amstrad to increase its sales beyond current projections.

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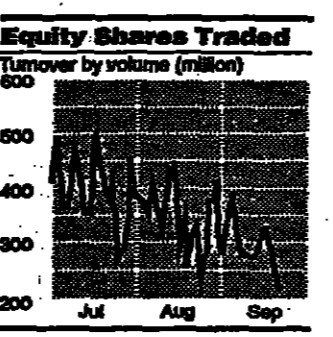
FINANCIAL TIMES STOCK INDICES

Table showing stock indices for Government Secs, Fixed Interest, Ordinary, and Gold Mines with columns for Sep 13, Sep 12, Sep 9, Sep 8, Sep 7, Year Ago, High, Low, and Since Completion.

S.E. ACTIVITY table showing indices for GIN Edged Bargains, Equity Bargains, and Equity Value with columns for Sep 12 and Sep 9.

TRADING VOLUME IN MAJOR STOCKS

Table showing trading volume in major stocks with columns for Stock, Value, and Daily Change.



BAe tailspin First-half profits some 34 per cent higher at 596m, compared with 471m, from British Aerospace failed to sustain the shares.

that its 25 per cent holding of Enterprise Oil was worth as much as 50p per share. A presentation in Tokyo was judged to have gone well, while dealers also noted US interest.

Among quietly traded banks, Standard Chartered saw-seas as rumours persisted that the bank might launch a 200m-250m rights issue today.

Boots, the high street chemist, traded relatively briskly with the shares closing 3 1/2 to the good at 203p in a volume of some 2m.

Taylor Woodrow firmed late to close 7 deuce at 602p as Morgan Grenfell, the securities house, raised its full year pre-tax profits forecast for the group to 100m following a meeting with the company yesterday.

using hopes. Consolidated Gold Fields edged up 8 to 1010p after the 23.7 per cent rise in preliminary profits was tagged "satisfactory" by dealers.

Seas bid denial While the stores sector slumbered yesterday Sears were again worth a close inspection as 7.1m shares changed hands.

International stocks were generally better as investors noted the activity in the Oil sector and shrugged off some of their worries about today's US trade figures for July.

ICI rose 12 to 1018p, after 1030p, as dealers calculated the recovery in crude prices worldwide and calls for Opec output restraint gave the oil sector further cause to advance broadly.

Mr John Freeman has been promoted to the board of SEAM FEEZER FOOD CENTRAL as director responsible for Victor Value. He joined Bejam in 1977 and in February 1988 became general manager of Victor Value following his purchase by the group.

Mr Colin Kerr, senior partner at EDWARD ERDMAN, is to retire at the end of December. He will remain a partner. Mr Ron Presley, chief executive, will be his successor.

Mr Michael Baylis has been appointed managing director of the MOTOR ACTIONS GROUP, a subsidiary of Mercantile Services, the automotive and engineering division of Mercantile Group. He was previously group operations director.

Oils leap forward The recovery in crude prices worldwide and calls for Opec output restraint gave the oil sector further cause to advance broadly.

Mr Michael Baylis has been appointed managing director of the MOTOR ACTIONS GROUP, a subsidiary of Mercantile Services, the automotive and engineering division of Mercantile Group.

Mr W. Kenneth Manshall has retired from BANCO HISPANO AMERICANO. He is succeeded as managing director by Mr Francisco Roche.

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APPOINTMENTS

British Gas operations director

Mr Bernard Heywood has been appointed HQ Director (operations), production and supply division, at BRITISH GAS headquarters in London.

Mr Michael Baylis has been appointed managing director of the MOTOR ACTIONS GROUP.

Mr Michael Baylis has been appointed managing director of the MOTOR ACTIONS GROUP, a subsidiary of Mercantile Services.

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PERSONAL COMPUTER SHOW

14-18 SEPTEMBER 1988 EARLS COURT LONDON PRESENTED BY PERSONAL COMPUTER WORLD

With over 500 international exhibitors, the Computer Conference programme and special events, The Personal Computer Show is the largest and most important PC event in the UK.

ADMIT ONE BUSINESS AND TRADE VISITOR ONLY THIS VOUCHER IS ONLY VALID FOR BUSINESS AND TRADE VISITORS OVER THE AGE OF 18.

NCR has made Mr Paul Entwistle divisional director, finance and administration. He replaces Mr Alan Robertson who has been appointed deputy general manager of NCR Switzerland.

Mr W. Kenneth Manshall has retired from BANCO HISPANO AMERICANO. He is succeeded as managing director by Mr Francisco Roche.

At PICCADILLY RADIO Mr Timothy Jury, the group finance controller, will join the board on October 1 as commercial director with special responsibility for the company's retail interests.

Mr Colin Kerr, senior partner at EDWARD ERDMAN, is to retire at the end of December. He will remain a partner.

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COMMODITIES AND AGRICULTURE

S Africa cuts strategic oil stockpile, says monitor

By Peter Montagnon, World Trade Editor

SOUTH AFRICA has sharply run down its strategic stockpile of oil, to release foreign exchange to meet debt-service and other balance-of-payments requirements, a leading independent monitor of the country's oil supplies said.

KL cocoa futures upset Malaysians

By Wong Sulong, in Kuala Lumpur

MALAYSIAN COCOA traders are disappointed that the cocoa futures contract launched on the Kuala Lumpur Commodity Exchange five weeks ago has fallen into the doldrums.

Grain futures markets recover in Chicago

CHICAGO'S GRAIN futures markets recovered yesterday after opening with price falls in early trading following Monday's release of the US Department of Agriculture's latest assessment of the US grain crop.

Traders rein in, seeking right trail

Deborah Hargreaves on the US drought's effect on the cattle market

AS CATTLEMEN start counting the cost of the US drought this year, Chicago's cattle futures market remains choppy in a bid to find a clear direction.

UK farm minister says world trade reform unlikely without conciliation

By Bridget Bloom, Agriculture Correspondent

THERE COULD be little hope for reform of international trade in agriculture unless the European Community, the US and Japan all took a more conciliatory attitude to the talks under way in the General Agreement on Tariffs and Trade.

WEEKLY METALS PRICES

Table with columns for metal names (Cobalt, Mercury, Molybdenum, Uranium) and their prices in various units.

Milk marketing boards order test-tube calf embryos

BRITAIN'S MILK marketing boards yesterday ordered 10,000 test-tube-produced, twin-calf embryos as part of an experimental programme aimed at producing such embryos for commercial sale to farmers.

LONDON MARKETS

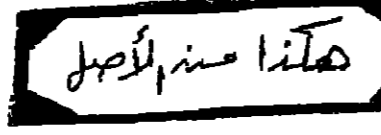
Table of LONDON MARKETS prices for COFFEE, SPICE, OIL, and other commodities.

WORLD COMMODITIES PRICES

Table of WORLD COMMODITIES PRICES for various metals, grains, and other commodities.

US MARKETS

Table of US MARKETS prices for CRUDE OIL, HEATING OIL, COCOA, and other commodities.



WORLD STOCK MARKETS

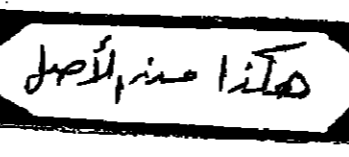


Table of World Stock Markets including sections for Australia, Canada, France, Germany, Italy, Japan, Netherlands, New York, Singapore, South Africa, Spain, Switzerland, and Taiwan. Each section lists various stock indices and their values.

CANADA

Table of Canadian Stock Markets including Toronto and Vancouver sections. Lists various stock indices and their values.

Table of World Stock Markets including sections for Australia, Canada, France, Germany, Italy, Japan, Netherlands, New York, Singapore, South Africa, Spain, Switzerland, and Taiwan. Continuation of the previous table.

OVER-THE-COUNTER

Table of Over-the-Counter market data including Nasdaq national market, 3pm Prices September 13. Lists various stock indices and their values.

TOKYO - Most Active Stocks

Table of Tokyo Most Active Stocks, Tuesday 13th September 1988. Lists various stock indices and their values.

Advertisement for 'Travelling on Business?' featuring the Financial Times logo and contact information for the Hyatt Regency Hotel.

Table of Indices including New York, Dow Jones, and various international indices. Lists various stock indices and their values.

Large advertisement for 'Have your F.T. hand delivered in Belgium' and 'Have your F.T. hand delivered in Norway'. Includes contact information for the Financial Times.

4pm prices September 13

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

Main table containing stock prices for various companies, organized in columns with headers for stock names, prices, and other financial data.

Continued on Page 45

Handwritten note: "Just no hits"



Journalista

FINANCIAL TIMES WEDNESDAY SEPTEMBER 14 1988 NYSE COMPOSITE PRICES

Table of NYSE Composite Prices listing various stocks with columns for High, Low, and Close prices.

AMEX COMPOSITE PRICES 4pm prices September 13

Table of AMEX Composite Prices listing various stocks with columns for High, Low, and Close prices.

OVER-THE-COUNTER Nasdaq national market, 3pm prices September 13

Table of Over-the-Counter prices listing various stocks with columns for High, Low, and Close prices.

Advertisement for Financial Times magazine featuring the headline 'Have your F.T. hand delivered in Germany' and contact information for Frankfurt, Milan, and Rome.

AMERICA

Dow edges higher in wait for July's trade figures

Wall Street

EQUITIES and bonds both moved modestly higher yesterday but the mood was cautious in advance of today's US trade figures for July, writes Janet Bush in New York.

The Dow Jones Industrial Average closed 10.67 points higher at 2,083.04 on improved volume of more than 162m shares.

US Treasury bonds reversed falls of up to 3/4 point on Monday to be quoted as much as 1/4 point higher in late trading.

Traders in both markets were reluctant to do much business before seeing the trade figures. The consensus is for a deficit of about \$11.5bn on a seasonally adjusted basis in July compared with the short-fall of \$12.5bn in June.

The Federal Reserve Board announced yesterday that it had brought forward the release dates of two other important economic indicators.

US industrial production figures for August will now be released today instead of tomorrow and capacity utilisation data for last month will be published tomorrow instead of Friday.

Volatility in oil prices was a key factor in the bond market

but provided little overall direction. A rebound in crude prices on Monday depressed Treasuries. Oil prices jumped above Monday's highs in early trading on the New York Mercantile Exchange but there was reported to have been substantial selling at those highs.

Both equity and bond markets are suffering from a lack of direction amid uncertainty about the domestic economy and policy abroad. Another reason for caution is the gathering in Paris tomorrow of senior officials from leading industrial nations, who are preparing for this month's meetings of the International Monetary Fund and the World Bank.

Fed Funds have been trading in a narrow range around 8 1/4 per cent in recent days and concerns about further tightening moves by the Fed have not been in focus. However, Mr Lyle Gramley, a former Fed governor, told the Joint Economic Committee yesterday that he would probably be needed to slow US growth to a non-inflationary pace. Funds were quoted at 8 1/4 per cent in late trading.

Kroger, the supermarket and drugs stores chain, jumped 1 1/4% to \$51 1/4 on news of a restructuring which will include the payment of a special dividend of \$40 in cash and a debenture valued at \$3 for

each common share. The announcement followed news that Mr Herbert Haft, Dart Group chairman, has received federal clearance to build up a stake in the company.

Monsanto, which may face damages in lawsuits involving the Copper-7 intra-uterine device made by its G D Searle subsidiary, slumped another 3/4 to \$74 1/4 in heavy trading, adding to Monday's fall of 8 1/4%.

TW Services, the most actively traded stock in early NYSE business, added 1 1/4% to \$20 1/4. A large block of shares was rumpoused to have been sold by investor Mr Ronald Perelman and TW Services said that it had not bought back the shares.

Index Technology, a manufacturer of computer-aided engineering products, dropped 3/4 to \$24 1/4 in over-the-counter trading. The company said it expected third-quarter sales to be below the second-quarter total of \$7.5m.

F W Woolworth jumped 1 1/4% to \$51 1/4, apparently on more takeover speculation centering on the Haft family.

Canada

GOLD and energy issues pushed Toronto higher in mixed trading, on turnover of 20m shares. The composite index rose 7.9 to a session high of 3,355.3.

Holiday season squeezes French turnover

France was the worst hit stock market last month as European trading dwindled at the height of the holiday season and fears of higher interest rates encouraged investors to steer clear of equities.

Volume in the French market fell by 40 per cent in August to a provisional FF42bn, the lowest monthly level so far this year and only just over half that of the peak month of June, according to figures provided by County NatWest WoodMac.

Takeover speculation trickled on, but many French investors and traders were soaking up the sun on Mediterranean beaches and interest rate worries sapped the strength of those who stayed.

Turnover in both the West German and Swiss markets fell 12 per cent lower than in July as foreign interest faded and interest rates moved higher. The West German performance was still much better than in the thin days of January, April and May in that market.

EUROPE

Germany hits 1988 high as optimism grows

HEALTHIER volumes and higher prices produced more colourful trading in Europe yesterday, with Frankfurt at a year's high and Paris revived by speculative trading, writes Our Markets Staff.

FRANKFURT sustained its strong gains of Monday through most of yesterday's session, with the FAZ reaching a year's high of 499.59. Prices came off a little towards the close and the DAX blue chip index shed 1.17 to 1,206.72. Volume eased slightly to DM3.08bn.

The FAZ is definitely going through 500, subject to there not being a terrible set of US trade figures tomorrow, said one analyst. Investors believed further interest rate rises were now very unlikely, economic growth was improving faster than in other countries, and rises in leading blue chips pointed to buying by international funds, he said.

Another analyst commented: "The FAZ will move up to 520 imminently, but things then depend on the US presidential elections. Pointing to a DM100 rise in insurer Allianz to DM1,584.50, he said investors would not buy at that level unless they believed the market would strengthen."

Engineering stock MAN improved DM2.70 to DM20.20 after Monday's news of an 18 per cent rise in its dividend index up 5.26 to 350.77. The opening CAC General index was up 2.5 to 354.0. Turnover was estimated by some traders to be more than treble the FF780m registered on Monday.

LVMH was extremely active with 470,000 shares changing hands about 4 per cent of the group's capital. Speculative trading was spurred by the belief that Financier Agache was in the market, with the

Alison Maitland reports on why most European bourses recorded shrinking volumes last month

Table with 7 columns: Source, Aug '88, July '88, June '88, May '88, April '88, 1st qtr '88 monthly av. Rows include Belgium, France, Germany, Italy, Netherlands, Spain, Switzerland.

aim of increasing its LVME stake from the present 20 per cent to consolidate its position before next Thursday's LVME shareholder meeting. The Agache stake is jointly held with drinks group Guinness. LVME jumped FF240, or 8 per cent, to a record FF3,170, making it the largest listed group on the bourse by capitalisation - overtaking Elf Aquitaine - according to Morgan Grenfell. Also active was CCF, up FF1.70 at FF135.50, with another 900,000 shares traded.

London

CONFIDENCE continued to grow in London as share prices rose, adding to Monday's gains, and turnover improved. The FT-SE 100 index rose 11.7 to 1,756.2.

A raid on LASSMO, the independent oil group, and a rally in the price of crude helped the oil sector pick up sharply. This in turn boosted international stocks, which also benefited as concern about today's US trade figures diminished.

MILAN closed slightly higher, partly on technical buying before today's expiry of monthly options contracts and the end of the monthly trading account on Friday. The Comit index edged up 2.01 to 518.20 but volume remained low.

There were notable rises in De Benedetti group stocks, with CIR gaining L135 to close at L5,495 before climbing to L5,680 in after hours trading. Cofide rose L140 to L1,040. Insurer Latina added L140 to L17,200 and then reached L17,500 after hours, while Oilvert advanced only L71 to L3,901 in the session but climbed on to L3,950 later.

The broad gains prompted speculation that there might be a restructuring of the group's oil assets. In France, the group's holding company Cerus was also up strongly.

ZURICH returned from Monday's holiday inspired by the strength of the German market, in spite of a dearth of corporate news. The Credit Suisse index added 0.5 to 483.2. Volumes were slightly better than in recent sessions.

AMSTERDAM was steady in very quiet trading in the wait for today's US trade figures. The CBS all-share index ended unchanged at 96.0. NMB fell a further F1 2.50 to F1 186.50 after its F1 5.50 drop on Monday as takeover speculation was killed by its plans for cooperation with state-owned Postbank.

BRUSSELS moved higher in moderate trading, with utilities making some of the biggest gains. The cash index rose 10.13 to 5,007.84. Demand was high again for Bekaert, the steel cord producer which reported a 30 per cent rise in interim profits last Friday. The company advanced BF1100 to BF11,600, building

on its BF1150 rise on Monday. Refining the oil group picked up BF1100 to BF12,925 after touching BF12,900 as 11,000 shares changed hands.

STOCKHOLM saw relatively healthy trading, with the Affärsvärlden index edging up 2.3 to 879.2. Sandvik announced it had agreed in principle to acquire the drilling products division of TRW of the US, and its free A shares gained SKr6 to a record SKr240.

OSLO saw investor confidence increase following a rebound in Norway's North Sea oil prices and stocks ended mixed. The all-share index edged up 0.56 to 270.32.

MADRID ended lower after a lacklustre session in which the general index lost 0.82 to 275.11. Foods, utilities and banks saw the largest losses.

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ASIA PACIFIC

Nikkei posts small gains despite profit-taking burst

Tokyo

TRADING started on a strong note yesterday but soon fizzled out to leave equities only modestly higher at the close, leading inspiration from home and abroad, writes Michiko Nakamoto in Tokyo.

The Nikkei average, which shot up 136.52 points soon after the opening, suffered from profit-taking in late morning and managed to recover only slightly at the close.

The index ended the day up 37.42 at 27,794.16 after moving between a high of 27,914.24 and a low of 27,711.11. Advances led declines by 478 to 365, while 200 issues were unchanged. Volume was higher at 876.8m shares, compared with 768m on Monday.

Later in London, Japanese shares inched higher with the ISE/Nikkei 50 index rising 0.10 to 1,806.00.

Investors in Tokyo at first continued buying big capital steels and shipbuilding stocks, encouraged by recent stability in overseas interest rates and currency markets. Steels, however, lost their momentum and ended generally lower.

The day's most heavily traded issue was NEKK, up Y3 at Y718 with 107.1m shares traded. Nippon Steel, the second busiest stock at 105.1m, rose in the morning to a high of Y758 but closed Y3 down at Y742.

Kawasaki Steel, at 96.6m shares the third most heavily traded issue, rose Y3 to a new high of Y784 in the morning but ended Y3 down at Y778.

Shipbuilding and heavy industries lost early gains but generally managed to end firmer. Mitsui Engineering and Shipbuilding was heavily traded and added Y12 to Y643, while Sumitomo Heavy Indus-

tries advanced Y22 to Y821. The shift in demand later in the day towards blue chips such as Matsushita and Sony was described by an analyst as "window-dressing" by securities firms before their settlement of accounts this month.

Such high-tech issues were generally stronger, with Matsushita adding Y30 to Y2,590 and Sony up Y40 to Y8,740. TDK gained Y50 to Y4,800 and Pioneer advanced Y20 to Y3,670.

Real estate issues remained strong throughout the day. Mitsui Real Estate rose Y110 to Y2,440 and Mitsubishi Estate increased by Y100 to Y2,310. Mitsui Real Estate has attracted interest recently on speculation that Oriental Land, in which it has a 48 per cent equity stake, will be listed on the TSE. Both companies are popular for their property assets.

Among losers, Konica plunged on rumours, denied by the company, that it had cash flow problems. The manufacturer of photo-sensitive material lost Y120 to Y1,530.

Government bond prices strengthened slightly in Tokyo yesterday and the yield on the benchmark 105th bond ended at 4.145 per cent in large-lot transactions, down 0.030 of a point from Monday. Buying increased during the day but this was followed by selling on profit-taking.

In Osaka, equities took strength from New York's continuing firmness and volume rose considerably to 130.7m shares from Monday's 94.96m.

Steels in Osaka, in contrast to their performance in Tokyo, generally firmed in heavy trading. Kawasaki Steel, the most heavily traded issue at 10.6m shares, gained Y23 to Y780,

Nippon Steel rose Y27 to Y743 and NKK gained Y30 to Y966.

Roundup

TURNOVER remained pitifully low in Asia Pacific markets, though share prices in Australia, Hong Kong and Taiwan all made up some lost ground.

AUSTRIAN rallied on cautious domestic bargain-hunting after foreign selling faded. The All Ordinaries index finished 13.5 higher at 1,580.6 after Monday's 28-point fall, but trading amounted to a very thin 67m shares worth A\$112m.

Gold stocks recovered some ground after the sharp fall in the bullion price on Monday and the gold index rose 27.8 to 1,626.6. Western Mining, seen as heavily oversold, led resource gains with a 26 cent rise to A\$5.80.

Placer Pacific was strong, with an 11 cent advance to A\$2.12, but Metana fell 92 cents to A\$5.90 and Sons of Gwalia 13 cents to A\$3.15.

Among industrials, banks were well supported, with National Australia 18 cents higher at A\$6.80 and Westpac 6 cents ahead at A\$5.72.

HONG KONG edged higher but trading volume fell back further from Monday's two-year low as investors awaited some direction from overseas.

The Hang Seng index added 4.65 to 2,473.59. Turnover dropped to HK\$267m, its lowest level since July 1986 and well down on Monday's HK\$338m.

SINGAPORE fell back in a lacklustre session in which most institutions were sidelined for today's US July trade figures. The Straits Times industrial index was off 2.54 at 1,062.91 in volume of 15m shares compared with 23.5m on Monday.

FT-ACTUARIES WORLD INDICES

Jointly compiled by the Financial Times, Goldman, Sachs & Co., and Wood Mackenzie & Co. Ltd., in conjunction with the Institute of Actuaries and the Faculty of Actuaries

Table with 12 columns: NATIONAL AND REGIONAL MARKETS, US Dollar Index, Day's Change %, Pound Sterling Index, Local Currency Index, Gross Div. Yield, US Dollar Index, Pound Sterling Index, Local Currency Index, 1988 High, 1988 Low, Year ago (approx). Rows include Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Hong Kong, Ireland, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Singapore, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA, Europe, Pacific Basin, Euro-Pacific, North America, Europe Ex. UK, Pacific Ex. Japan, World Ex. US, World Ex. UK, World Ex. So. Af., World Ex. Japan, The World Index.

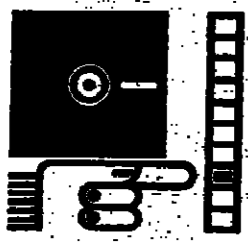
Base values: Dec 31, 1986 = 100; Finland = 115 037 (US \$ Index), 90.791 (Pound Sterling) and 94.94 (Local). Copyright, The Financial Times, Goldman, Sachs & Co., Wood Mackenzie & Co. Ltd. 1987

Advertisement for Chiquita bananas. Text: 'We've got news for Europe that's too big to keep under our hat.' Includes image of a woman's face and a Chiquita logo.

Handwritten Arabic text: 'مكتبة من الكتب' (Library of books)

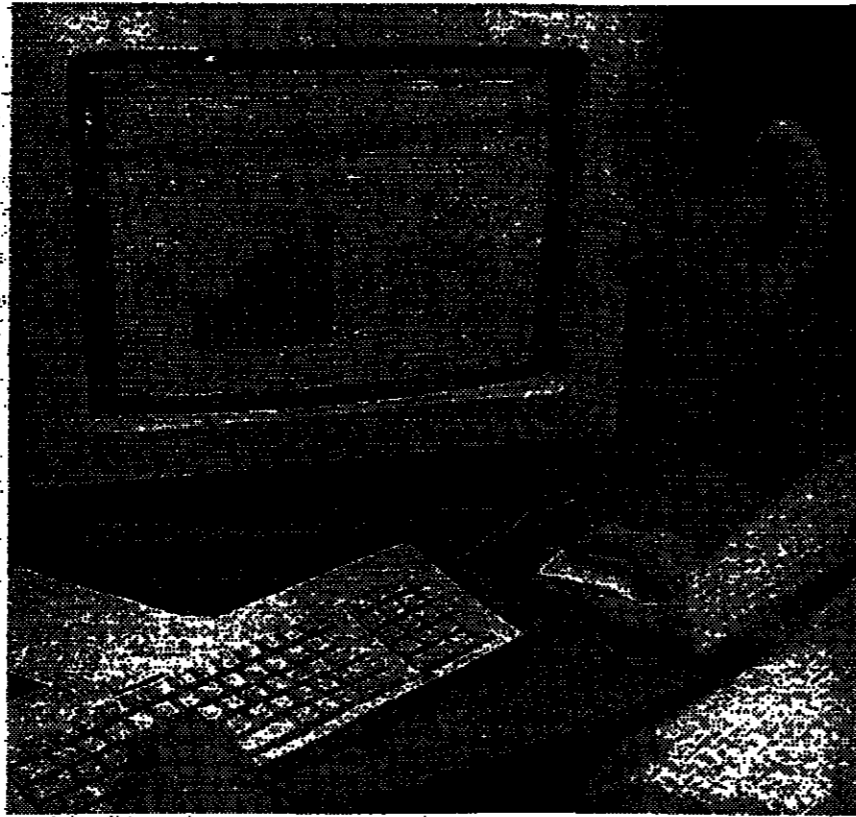
SECTION III

FINANCIAL TIMES SURVEY



Growth rates for the personal computer and software industries have exceeded the

expectations of market analysts in the last three years. However, manufacturers in the sector are facing some significant questions, as Alan Cane explains here.



ABOVE, centre: Mr William Gates, chairman of Microsoft, and one of the most influential figures in the personal computer business, says the market is now in exceptionally good health. Also pictured: work underway in computer graphics on an Apple Macintosh computer (right) and on an IBM Personal System/2, (left).

Competition intensifies

THE PERSONAL computer industry is in transition. Some would argue that the changes now taking place are close to the final stages in the evolution of the personal computer as it takes its rightful place in the hierarchy of data processing machinery.

"look and feel" of its innovative graphical human interface in the courts? Controversies like these apart, the market is in rude good health. Mr William Gates, chairman of Microsoft and one of the most influential figures in the personal computer business says: "The main thing that is happening is that personal computers are selling super well. It is hard to explain why the market is so healthy, but for the past three years, growth rates have exceeded our expectations. The majority of that business today is MS/DOS machines, 80286-based machines and, increasingly, 80386 machines".

in local values is in the order of 35 per cent. Still very healthy growth; but why should Mr Gates emphasize the significance of sales of MS/DOS computers? MS/DOS is an operating system, a sophisticated computer program that controls the internal working of the computer and is the key to the kinds of applications which can be run on a computer and the efficiency with which they operate.

Developed by Microsoft eight years ago, it became the industry standard after its adoption by IBM for its first generation personal computers, the PC, PC-XT and PC-AT. It proved a unifying force in the industry, the only real alternative being Apple Computer with its entirely different Macintosh technology. IBM computers and IBM plug-compatible machines, which run the same software as IBM even if their internal circuitry is not identical, use microprocessor chips from the US semiconductor manufacturer Intel. The most advanced of these is the 80386 which can run at a speed of 25 megahertz - its internal clock ticks 25m times every second. Apple Macintosh computers, however, use microprocessors from another US semiconductor manufacturer,

Motorola. All of these chips process bits of information 32 at a time, like mainframe computers. A year ago, IBM launched its PS/2 family of personal computers, a new design incorporating a feature called Micro Channel Architecture, (MCA). Ostensibly, a mechanism for moving data more efficiently through the computer, and hence improving performance, MCA also made it difficult for IBM's competitors to copy the design, something that had proved to be child's play with the original PC.

IBM does nothing to help. You are on your own," he said. Apricot, in fact, used a set of chips that emulate MCA, designed and fabricated by Chips & Technologies, a Silicon Valley semiconductor manufacturer.

Along with PS/2 and its innovative MCA design came OS/2, written as a joint effort by Microsoft and IBM and one of the most complex computer operating systems ever devised. Compared to the limited functions of MS/DOS, OS/2 can address (talk directly to) four gigabytes (32 billion bits) of memory, opening the way to massive performance improvements.

Nevertheless, the introduction of PS/2 and OS/2 gave the market a problem. In companies large and small, computers running MS/DOS (now identified as industry standard architecture or ISA) computers had become the norm - masses of software, including such industry favourites as the best-selling spreadsheet of all time, 1-2-3, and the filing program Dbase II ran under MS/DOS. Many businesses were still coming to terms with the implications of personal computers as executive workstations.

On top of that, a world shortage of computer storage, of high performance memory chips, has caused problems for many manufacturers just when the personal computer market was bouncing back after some years of retrenchment.

Figures from Dataquest, the US-based market research firm bear out Mr Gates' optimism. They show that the US personal computer market grew from \$20.6bn in 1987 to an estimated \$25bn this year and is expected to touch \$30bn by 1992.

In Europe, Dataquest's subsidiary Intelligent Electronics reports that the market grew by 65 per cent in unit terms in 1987 compared with 1986 and by the same per cent in value. Intelligent Electronics points out, however, "This high value growth reflects in part the weakness of US currency against all the European currencies during 1987. A true fig-

ure of local values is in the order of 35 per cent. Still very healthy growth; but why should Mr Gates emphasize the significance of sales of MS/DOS computers? MS/DOS is an operating system, a sophisticated computer program that controls the internal working of the computer and is the key to the kinds of applications which can be run on a computer and the efficiency with which they operate.

Mr Roger Foster, Apricot chief executive, said at the launch that IBM's move was in fact more of a waiver. They had not opened their designs to Apricot, simply turned a blind eye to the reverse engineering.

Which is best? Stephen Bear, senior marketing manager of PC products at Unisys believes there is no clear cut winner. The choice depends on the variables. But he points out that there are at present more LAN-based application programs than there are for multi-user system - "combine this with the low cost of implementing a LAN, then one would tend to favour LANs as the route to take for multi-terminalisation," he says.

One major industry debate, however, has been settled conclusively in the past couple of years. There is no question that the graphics-style human interface pioneered by Xerox and given credibility by Apple with its Macintosh and Macintosh II is the way of the future.

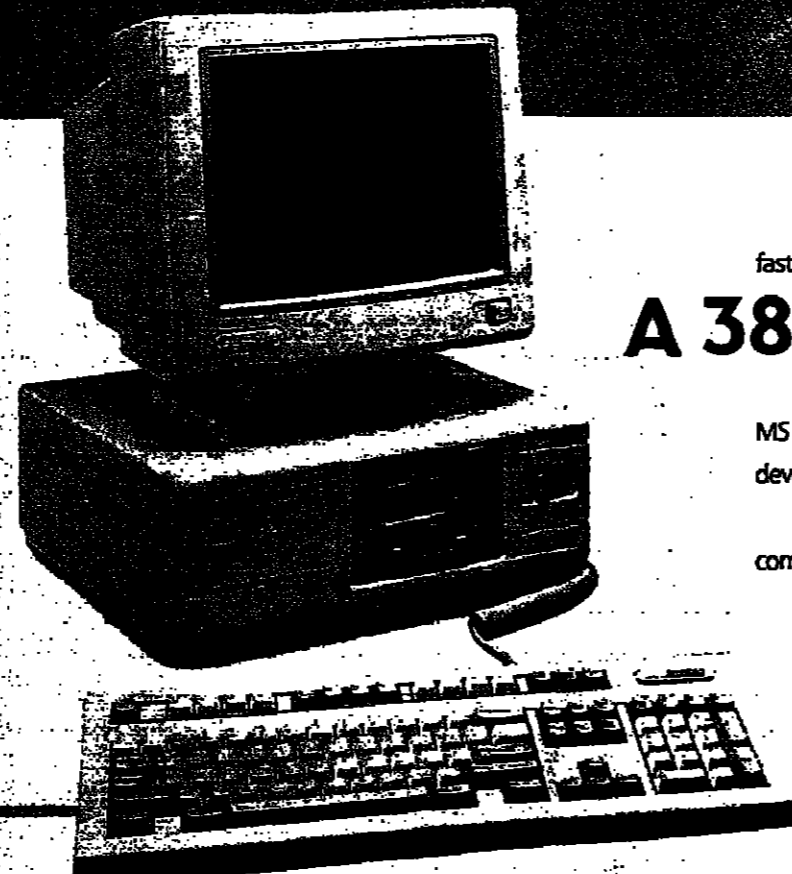
Microsoft's "Windows", IBM's "Presentation Manager" and Hewlett Packard's "New Wave" all derive their inspiration from Xerox's screen pictures and pull down menus. Now Apple is attempting to sue the others to protect its intellectual rights, but its success is by no means guaranteed.

Personal Computers

ON OTHER PAGES
International section, pages 2-4.
Industry issues, pages 4-6.
Technical developments, pages 6-7.
Software issues; case studies, pages 8-10.

NEWS FROM THE MARKET

386 P.C.



Here's a revolutionary thought, but one that comes as no surprise from the 386 brand leader. Instead of a 286 pc, why not buy a 386 pc? Or to be precise, the new Compaq Deskpro 386s. It's not the extravagance you might think, because it costs about the same as a slower 286 based pc. The reason? It's the first personal computer to be powered by Intel's innovative 80386SX microprocessor, which, at last, makes this kind of technology an affordable alternative to pcs based on a 286. Some would say it's technology worth having at any price.

For example it will run current software up to 60% faster than most 10MHz 286 pcs.
A 386 P.C.
It can offer the full benefits of both MS OS/2 and MS DOS allowing you to exploit new software developments as they become available.
It will run 32 bit software - something no 286 based computer can do.
And it's all wrapped up in a new slimline design.
For a little more than the price of a top of the range 286, the price is pretty slimline too.

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PERSONAL COMPUTERS AND SOFTWARE 2

Powerful domestic demand and extraordinary export growth are fuelling this hugely profitable sector, says Louise Kehoe

Record revenues and profits for US makers

US PERSONAL computer-makers are riding the crest of a booming market. With domestic sales fuelled by demand for new, high-performance personal computers and extraordinary growth in

The US makers' sales of PCs are expected to exceed \$23bn this year, up 17 per cent on last year

export sales, the major US personal computer makers are charting record revenues and profits.

Sales of personal computers in the US are expected to top \$23bn this year, up 17 per cent on last year.

The overall figures mask runaway growth in the high end of the personal computer market where sales are estimated to be running at an annual growth rate of 35 per cent, according to figures from Dataquest, the California market research group.

Behind the personal computer boom is the unrelenting progress of semiconductor technology which has yielded microprocessors capable of carrying minicomputer workloads

at desktop computer prices. Creating new demand for personal computers are software applications in the burgeoning sectors of desktop publishing, desktop presentation and computer-aided design.

The personal computer is seen increasingly as the key element in a new corporate data processing system in which individuals can tap into corporate and remote data resources while maintaining control over their own desktop computer.

The now essential role of the personal computer in business is perhaps best illustrated by the phenomenal growth, this year, of sales of "laptop" or portable personal computers in the US.

Up 76 per cent over last year, sales are expected to reach close to 1m units by the end of the year.

Apple Computer, Compaq Computer, Dell Computer and Tandy are among the biggest winners in the US PC market this year. Each has increased its share of the lucrative business sector, while Apple and Tandy have also strengthened their hold on the education and home computer markets.

IBM, still the largest supplier of personal computers to US corporations, claims strong

sales for its 16-month old Personal System 2 products, with more than 2m units sold. However, according to most US market researchers, IBM's share of the personal computer market continues to slip. Store-Board Inc., a Richardson, Texas market research firm, says for example that IBM's share of the business PC market decreased by 13 per cent in the second quarter of 1988 compared to the same period last year.

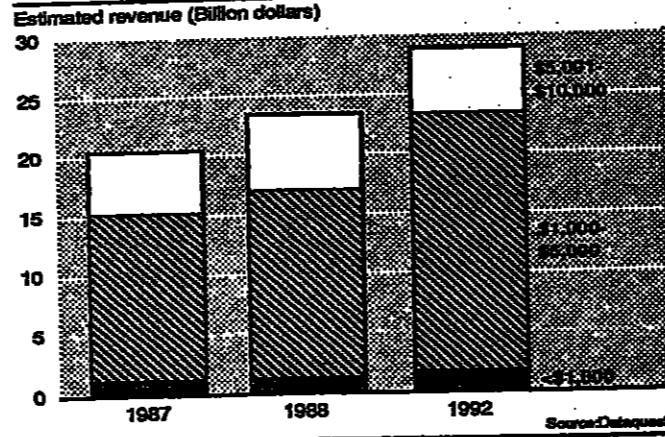
The success or otherwise of IBM's PS/2 is of major significance to the entire personal computer industry. With the PS/2, IBM has launched a new computer architecture and

Growth of laptop portables is up 76 per cent over last year, with sales of 1m units expected this year

operating system into the personal computer market.

The acceptance of this new standard, and IBM's determination to prevent illegal copying of its new design, remain hotly debated issues within the US industry.

US personal computer market



To date, few "clones" of the PS/2 have reached the market although Tandy and Dell Computer have both announced PS/2-style products.

Ultimately, the success of PS/2 may be determined by software developers who have promised, but have yet to deliver, software applications that take full advantage of the PS/2's performance capabilities.

Currently, however, products based on the existing

proprietary Macintosh software. The suits centre on the Macintosh's unique "graphical user interface" - the screen displays that allow a Macintosh user to control the computer with a "mouse".

The outcome of the Apple litigation, which has drawn an aggressive counter-suit from Hewlett-Packard, is expected to have a major impact on the look and feel of personal computers in the future.

Major computer makers including IBM and Hewlett-Packard, Xerox, Sun and AT&T along with software developers like Microsoft, are convinced that graphical user interfaces are the way to go. The major advantage is that they make it easier to learn how to use a computer by replacing arcane keyboard commands with simple menu choices.

If Apple wins its case, however, it may be difficult for other companies to create graphical user interfaces that look similar to the Macintosh screens. Alternatively, if Apple loses, Macintosh-like screens may proliferate.

The uncertainties surrounding operating systems and interface software standards appear to have done nothing to dull demand in the intensely-

competitive personal computer market. Nor, it seems, are customers overly sensitive to price. In recent months US personal

The outcome of the Apple law suits is expected to have a major impact on PCs in the future

computer prices have stabilised and in some cases risen as manufacturers pass on the cost of steep increases in memory chip prices.

The memory chip shortage has become a major concern to

all US computer makers, drawing many personal computer executives into the complex political debate over the US-Japan semiconductor trade.

Japan supplies an estimated 80 per cent of the world's memory chips.

According to the latest estimates from industry experts, the shortage may continue for as long as another 12 months - pushing prices still higher and causing problems for many US personal computer makers.

If the chip shortage worsens, it could put the brakes on the current US personal computer boom, another high growth year in 1989.

Japan

Market still well below its potential

JAPAN'S personal computer market has long been enmeshed by a variety of problems.

These include: incompatibility between the different manufacturers' equipment; lack of a tradition of keyboard use; complexity of the software required to handle Japanese script; and, in particular, the dominance of a single manufacturer, NEC Corporation, which holds 70 per cent of the 16-bit machine market.

Consequently the market continues to function well below its potential size, in terms both of hardware and software. But signs of change are slowly emerging.

Attempts to establish a unified IBM/MS-DOS standard in Japan, to be known as the AX (architecture extended), are gaining wide support.

IBM's OS/2 looks set to provide a standard OS for 32-bit PCs within the next few years, and Japan's increasing ties with international companies, particularly in the financial sector, have produced a new momentum towards compatibility with systems in use worldwide.

Probably the biggest success story of the past year has been "laptop" units in the office market. Users have shown such interest that manufacturers have been obliged to develop customised local area network adaptors.

Toshiba has been the chief winner. It claims to have sold ¥12bn-worth of IBM-compatible laptops in the fiscal year ending March 31 this year, in a market which it estimates totalled ¥20bn.

Toshiba forecasts ¥24bn of laptop sales this year, in a market worth ¥40bn yen, and also recently became the first Japanese company to offer a 32-bit laptop unit.

Industry analyst Steve Myers, of Jardine Fleming, notes: "For Toshiba to go from nowhere to 10 per cent of the entire PC market in just 18 months with a product incompatible with any other then on sale, is most remarkable."

The growing acceptance of laptops is likely to have a strong effect on the marketing strategies of leading companies, and appears to offer support to the basic marketing philosophy of NEC, which has promoted PCs as elements of upwardly-expandable personal information systems, rather than as terminals for large computer systems - the dominant approach of most other companies.

The future direction of the market is also closely tied to user-interest in 32-bit equipment. Demand is expected to grow rapidly, because these machines, equipped with IBM's recently introduced OS/2 operating system, offer a solution to the limited memory addressability and multi-tasking support of 16-bit machines working on MS/DOS.

This limitation is felt more keenly than in the West, because of the high volume of data that must be processed when handling Japanese script. IBM Japan has already managed to establish prominence in this arena by introducing the versatile SMART packaged software for its PS/55, the Japanese version of IBM's 32-bit PS/2.

The Japan Electronic Industry Association expects that annual unit sales of 32-bit machines in Japan will reach 400,000 by 1991, in a domestic market worth ¥1,072bn, while 16-bit machines will level off at current annual volume of 1.25m units a year.

A general expansion of the domestic PC market, which currently features lower software purchases per unit sale than the US market, and less than half the growth rate, remains the prime objective of market participants, and the

AX project is one of the most important related initiatives.

The AX project group is led by Microsoft Corporation and consists of more than 20 Japanese hardware and software companies, including Mitsubishi, Sharp and Sanyo.

Until now, individual Japanese personal computer manufacturers have produced customised versions of MS-DOS for their equipment, resulting in a high degree of equipment incompatibility in Japanese offices where, typically, machines of several different makers are installed.

NEC, meanwhile, has continued to benefit from its early entry into the market, which caused software developers to design their products specifically for its equipment - a pattern which has proved very hard for other companies to break.

AX, it is hoped, will enable software developers to invest in products for a unified IBM/MS-DOS environment. This could allow hardware makers to compete on a more even footing with NEC, and provide users with access to a broad range of IBM software.

Marketing AX products presents the main obstacle, as the NEC-oriented market structure of the mass retail shops will oblige participants to develop

The TRON project is further evidence of the urgency with which Japanese companies are seeking to end incompatibility

original sales networks. One attempt has been made, by Seiko Epson, to open up a NEC-compatible market, but, unlike IBM, NEC does not follow an "open architecture" policy.

When Seiko marketed an NEC PC-8600 clone, it was promptly sued by NEC, and other clone production plans have since been abandoned.

The prospect of a more open market for PCs in Japan has already attracted the attentions of manufacturers elsewhere in Asia.

Low-priced NIE electronics goods have been faring well in the Japan market in recent months, but companies such as Acer are expected to face difficulties in providing adequate sales and support structures and brand name recognition.

The Japanese manufacturers are attempting to counter the NIE threat by offering users a wider variety of hardware.

The "wild card" in the market is TRON (the real-time operating system nucleus), a home-grown operating system designed to provide standardisation in computer architecture, which is under development in a ¥10bn research project, led by Ken Sakamura, of Tokyo University, and supported by more than 40 Japanese companies.

The TRON project is further evidence of the urgency with which Japanese companies are searching for ways to break out of the impasse of equipment incompatibility, but this "open architecture" initiative could well be upstaged by IBM's sophisticated OS/2, which has already gained the backing of many Japanese companies, and promises to open up even wider software choices.

The danger remains, however, that in the Japanese market OS/2 could represent a replay of the MS-DOS experience, with major companies opting for customised versions of the new operating system, usable only with their equipment.

Roy Garner



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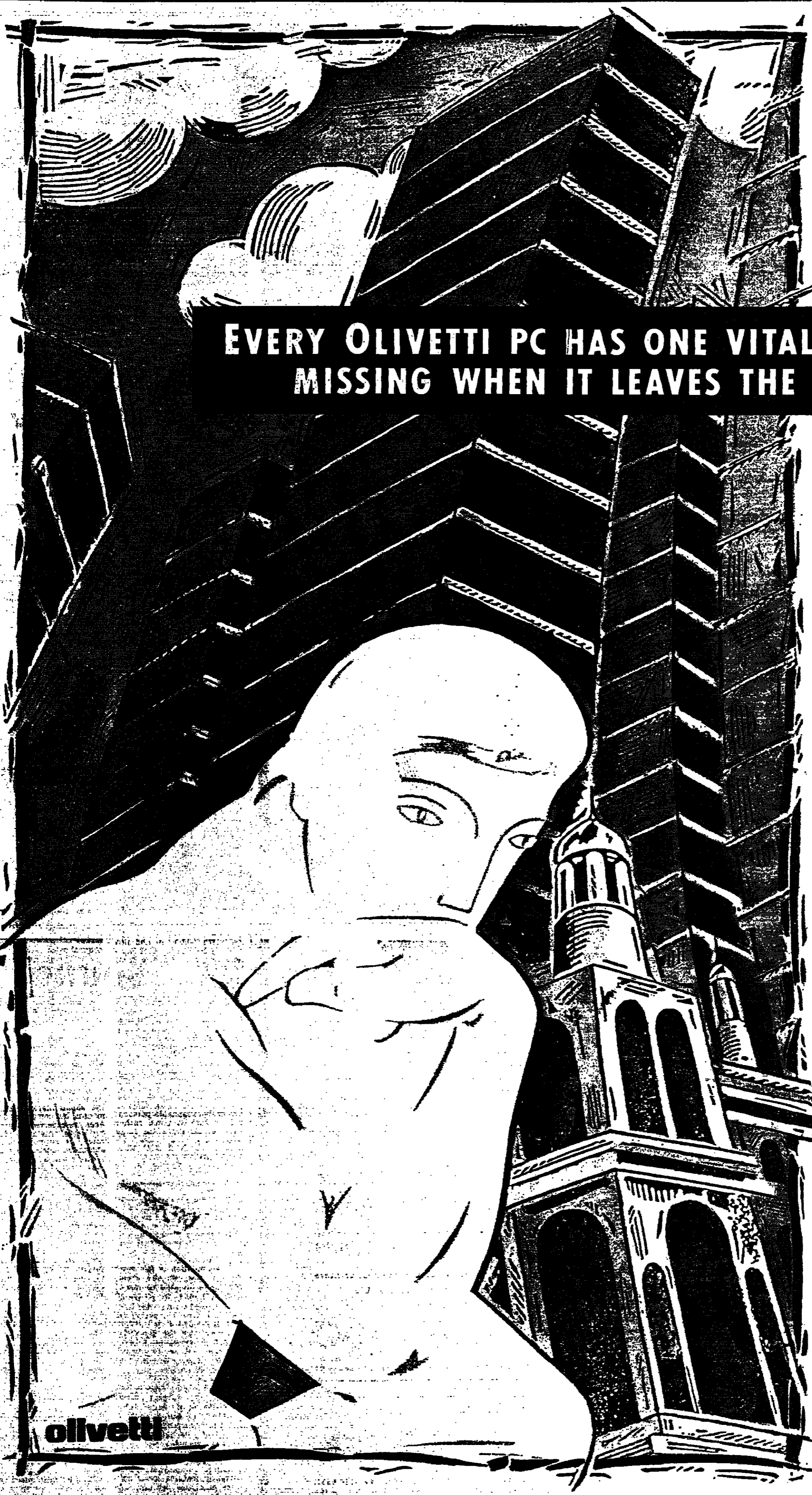
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PERSONAL COMPUTERS AND SOFTWARE 4

Manufacturers' fortunes are shifting as sales grow

UK market is restive

THE WORD which best describes the state of the UK personal computer market in the final half of 1988 is restive. The major themes which will shape the market are already visible, but it is not yet clear how far they will develop.

Shipments in total are well up. UK sales of PCs for 1988 are heading for a total of 400,000, in a total market worth close to £900m. But growth of the market in 1989 will depend to a considerable degree on what happens during the rest of this year.

The market is restive because changes in technology for PCs are partly prompting and partly coinciding with changes in distribution. In turn, changes in technology are causing a shift in customer loyalty.

The major characteristic of the UK PC market in the first three quarters of 1988 has been the decline in market share of the lower-priced PCs built to run as if they were IBM's older generation of technology.

Amstrad, Tandon and Olivetti have each seen their market share decrease in a rising market. In the five months to May 1988 Amstrad won 22 per cent of the UK market judged by units, according to UK market-research company Context. In the same period IBM won 31 per cent.

This was a reversal of Amstrad's leadership in the final months of 1987 when its lower-priced PCs consistently outsold IBM models.

On the other hand, the market shares of vendors of PCs which are priced higher than Amstrads and aimed more at the corporate user have held up well. In some cases their share of the market has increased.

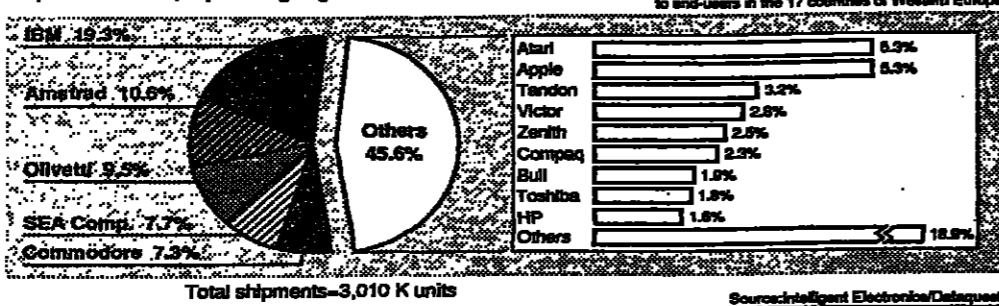
The main beneficiary has been Compaq, the US vendor which is increasingly being chosen by corporate PC users as their second choice to IBM.

Context even put Compaq's May sales of PCs above Amstrad's, attributing to it 14 per cent of the market in May compared with Amstrad's 13.6 per cent. As ever, there is dispute between market research companies about the market shares for each vendor.

But the overall trend has been clear: lower-priced PCs based on the older IBM PC

European PC market

Shipments in 1987, all product categories



Total shipments - 3,010 K units

Source: *International Electronic Dataquest*

All personal computers from \$600 to \$10,000 based on shipments to end-users in the 17 countries of Western Europe

architectures are less attractive to customers. This is a direct result of IBM's change of technology with its new PS/2 range.

The launch of the PS/2, in April 1987, set the technical goals for other makers. The PS/2 range is now based on the Intel 80286 and 80386 microprocessors and has a new way of letting printers and other devices communicate with these microprocessors.

To handle the more complex tasks that PCs are used for, IBM has also changed the operating system, from MS-Dos supplied by Microsoft, a US software company, to OS/2, jointly developed by IBM and Microsoft. IBM's PS/2 announcement pulled more of the technology of the PC under IBM's control than its previous PC products.

But IBM cannot successfully switch overnight from one technology to another. Part of the restiveness of the market in late 1988 and early 1989 will be caused by uncertainty about how far IBM can achieve the change it wants.

From IBM's point of view, it is rather like being Coca-Cola surrounded by successful makers of Classic Coke as it tries to establish New Coke in the market.

From the point of view of competitors and some users, it is like being dedicated Coke drinkers only to be told that the other brands are quite good after all.

Competitors know that, at some time in the future, they will have to change. The question is when and how fast. IBM's new PS/2 architecture was already capturing 20 per cent of the UK market, judged by units, in the middle of the year. It was as much as 30 per

cent when judged by value, according to Context.

But the competition is still struggling with two problems. The first is that to offer PCs compatible with IBM's new PS/2 architecture they have to come to a licensing agreement with IBM about using its patents. To be allowed to use its new patents, IBM is insisting that vendors of PCs compatible with its old technology also settle their outstanding payments.

The outcome of these negotiations is shrouded in secrecy because IBM insists on non-disclosure by those who settle. But it is understood that IBM is asking for one per cent of sales income from PCs using its older patents from 1984 to 1988 and three per cent from May this year.

This is a hefty royalty charge on the whole of the PC industry which has grown up around IBM.

The second problem the vendors of compatible PCs are struggling with is to judge whether the new PS/2 architecture is being taken up in sufficient numbers by users to provide enough of a target. Some competitors who have developed compatible PCs are holding their back, claiming that IBM's sales of its new architecture are not high enough.

But the new PS/2 architecture will be established sooner or later. Its appeal for corporate users who need access to mainframe and minicomputers for corporate data is clear. So is its attraction to those who need raw processing power for large spreadsheet and database applications.

To an extent, the competitors are making the best they can of their position, arguing that the old technology is still appropriate while doing all they can to ready their new products.

As the PC, in the eyes of the main vendors to business customers, becomes even more established as a corporate tool, then its distribution begins to change. The traditional dealer is put under pressure.

Traditional dealers are single outlets serving a select group of customers in their locality. They have loyalty to two or three manufacturers and cooperate in joint marketing, repair and warranty servicing and sales.

But the dealers are feeling the squeeze once again. As long as IBM is able to make as many PCs as its customers demand - as is happening now - these dealers find their margins cut.

They cannot afford to invest in the high-priced services of systems integration. They are seeing more and more traditional minicomputer resellers and value-added resellers cut into their business.

PC manufacturers are also increasingly interested in selling directly to the larger companies which will use them. In the first quarter of 1988, 12 per cent of PC sales by units were made directly by the manufacturers, compared with five per cent in the first quarter of 1987, according to UK market-research company Romtec.

The traditional dealer is also squeezed by the rise of the distributor who supplies the smaller dealer and the end-user directly. Distributors' share of end-user sales in the UK rose to seven per cent in the first quarter of 1988 compared with five per cent in the same period of 1987, says Romtec.

Richard Sharpe

WEST GERMANY

Quality selling best

IT CAN BE no surprise that the West German PC market is dominated by IBM. In West Germany, reputation and reliability rates higher than a low price when it comes to choosing a personal computer.

International Business Machines, which first convinced the data processing divisions with its mainframes, outsells its next three PC rivals - Commodore, Compaq and Apple - combined in value terms, in what is the third-largest market in the world behind the US and Japan.

The fact that Commodore, better known for its home computers in most other markets, is number two in West Germany and Schneider is number three shows that low-priced PCs are not the mainstay.

Amstrad, which used to supply Schneider, has just entered the market under its own name this year. Schneider, based in Bavaria, now makes its own PC, with its basic Euro PC starting at DM 1,300.

More than 90 companies sell PCs in the West German market. Mr Peter Steding, management consultant for research firm Diebold Deutschland, says that vast sales and service networks are important to both private and business PC buyers, while mail order sales total fewer than 20,000 units annually.

In a survey of the 1987 West German PC market, Diebold divided it into four price categories. The most basic PCs fall into the "semi-professional" category, costing DM 1,000 to DM 2,500. Just over a third of the 673,000 PCs sold in Germany last year were in this group, with Atari ranked number one, its 72,000 units valued at DM 1,500, Mr Steding says.

The second PC category, the XT class, priced at DM 2,500 to DM 5,000, accounted for 180,000 units, led by Commodore's sales of 67,000 PCs valued at DM 240m. Second was Schneider (Amstrad) with 42,000 units valued at DM 170m, and third was IBM-XT, with 23,000 units

valued at DM 163m. The third category, the AT class - priced at DM 5,000 to DM 10,000 - accounted for 170,000 PCs. It was led by Tandon, with 34,000 PCs sold for DM 130m; followed by IBM, 19,000 PCs (DM 125m); and, in third place, Olivetti, with 15,000 PCs (DM 90m), followed by Victor, whose 12,500 units are valued at DM 100m.

West Germans bought 94,000 machines in the highest-priced PC class, those with the Intel 85586 chip or at least costing DM 10,000 to DM 25,000 each. IBM led all others, selling 31,000 PCs valued at DM 380m, or more than half its total PC sales by value.

In another PC survey by IPC, the West German professional PC sales last year was led by IBM with 96,200 units, followed by Tandon at 26,100, and Commodore, with 25,500 units.

A Diebold sales forecast indicates that the West German PC market should reach its estimated 3m potential by 1992-93, Mr Steding says. Of the 540,000 PCs expected to be sold in West Germany in 1992, 300,000 of them will be replacement machines, with fewer new PCs being sold on the market, he predicts.

By that time, computer software sales of DM 30bn will exceed hardware sales of DM 28bn for the first time, according to another Diebold survey.

Software sales will outpace hardware sales growth this year, according to Mr Peter Dax, spokesman for the German electronic industry's trade association.

"Software sales have averaged 25 per cent growth a year. In 1987, software sales were up 18 per cent in real terms (minus inflation), while hardware sales were up a real 1 per cent," Mr Dax says of the total computer market.

PCs are actually the bright spot in West Germany's DM 35bn computer market. Nixdorf Computer, the local favourite which has concentrated on minicomputers, has forecast

nearly flat earnings this year after last year's 19 per cent increase to DM 284m. One reason, Mr Steding suggests, is that Nixdorf got into PCs very late.

"Nixdorf saw the PC as a toy which had nothing to do with their installation. They are still basically confined to their customer base, selling their PCs along with their minis."

IBM, the market leader, reports booming sales this year following the introduction of

WEST GERMANY'S TOP TEN PCs sold in 1987

1. IBM, 80,000 units sold (value DM 670m), compared with 72,000 units in 1986. (value DM 580m).
2. Commodore, 67,000 units sold (DM 242m).
3. Schneider (supplied by Amstrad), 42,000 (DM 172m).
4. Tandon, 34,000 (DM 170m).
5. Apple, 22,500 (DM 195m).
6. Olivetti, 22,500 (DM 148m).
7. Siemens, 21,000 units (DM 192m).
8. Compaq, 19,300 units (DM 201m).
9. Nixdorf, 14,000 (DM 107m).
10. Victor, 14,000 (DM 106m).

Total: 673,000 units, (valued at DM 3.9 bn). Source: Diebold, Frankfurt.

its new PS/2 model PC last year. IBM Deutschland reported 1987 total sales of DM 11.5bn, with profits of DM 554m, making it the American company's major subsidiary.

West German researchers are apparently keen to get their very own PS/2 with its Microchannel hardware, says Gtater Schier, journalist for Markt Technik magazine, in Munich.

"It seems as if our engineers and scientists were waiting for this. The Microchannel is somewhat faster and in the future, when the software is available, it will do a lot more than your regular PC," Mr

Schier says in explaining the booming demand for IBM's new PC.

During the first half of 1988, IBM delivered 31,000 PCs with Microchannel, and this should reach 90,000 by year's end, according to a recent IDC analysis.

West Germany is known as a high-price market, where PCs often fetch 10 per cent more than in other European markets. IBM's PS/2-50 costs almost DM 30,000 with a discount reportedly available when you order in quantity. It is West Germany's most popular model, says IBM's Jörg Baiser.

"In 1987, one third of our PCs sold in West Germany were Microchannel machines. This year two thirds sold are Microchannel PCs," Mr Baiser says. "The Microchannel is pure hardware. We've taken the technology and ideas from the mainframes and reduced it to the PC level."

That sales pitch for multi-user, multi-task PCs has not made IBM's microchannel PC a runaway seller in the United States market. American buyers are apparently waiting to see the software before investing in the new hardware.

The surge in IBM sales, with no other microchannel on the market yet to match its promises, is seen by Mr Schier as profiting from a major mistake by IBM's rivals in the business PC market.

"It could be a mistake to wait since IBM is increasing its market share," Mr Schier says. "IBM's competition is losing a lot of time, saying there is no need now for the microchannel. But when you consider these [IBM] sales statistics, I'd be nervous."

By the end of this year, IBM's share of the professional PC market should triple to 21 per cent, according to a recent IDC survey. It will take a lot of innovation and strong selling to catch up, and by then West Germany's PC market may be saturated.

Dennis Phillips

Rising output in Italy

ENGINEERS (left) make quality-control checks at Olivetti's personal computer production plant at Scarmagno, in Ivrea, Italy.

Olivetti, a leading European PC manufacturer, produces a machine every 1.5 seconds at one of its four plants. The fully-automated Scarmagno plant produces 500,000 PCs a year and aims to increase this to 750,000. The company has ten PCs in its range and has just launched an entry-level model, the IBM-compatible M200, aimed at the education and corporate network markets. The basic UK price for the twin floppy disc, monochrome version is around £248.

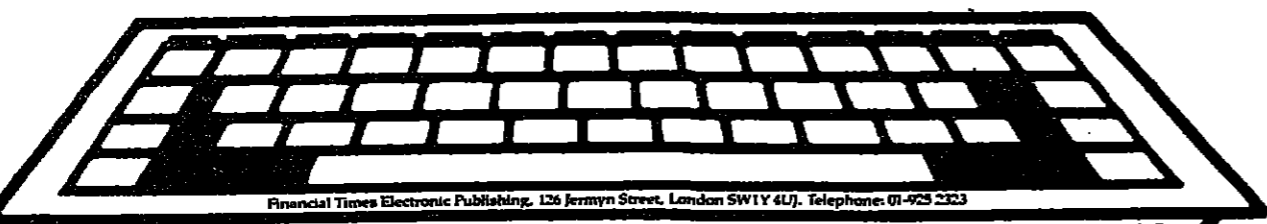


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Developments in industry-standard architecture

The quandaries abound

WHEN IBM launched its Micro Channel Architecture (MCA) as a replacement for the industry-standard PC expansion bus last year, the PC business was thrown into an immediate quandary. IBM had developed a new, proprietary 'bus' structure (data highway), and there was every reason to suspect that the case of which it was an integral part, the Personal System/2, might be a considerable success.

Most important of all, the company was blithely telling its competitors that they were welcome to invest the two years it had taken IBM to develop the new 'bus' and associated chips if they wanted to compete. It was not going to be so generous as it was with the old PC bus, or its follow-on for the PC/AT.

Eighteen months on, and the situation has changed more than somewhat. (see page 10). All the evidence suggests that the PS/2 family has not been the storming success in the market that IBM had hoped or intended. The company claims that well over 2m units have been shipped, but admits that the majority of these have been the PS/2 Model 30, the one model in the range which does not come with the MCA bus. Instead, this still uses the industry standard PC bus.

Now, IBM is talking openly of licensing competitors in the market, so that they can produce MCA-equipped systems of their own. Companies such as Apricot, Dell, Tandy and Olivetti have systems available, coming, or in the pipeline.

Perhaps the most significant of these is Amstrad, which recently signed a cross-licence deal with IBM giving each of them access to the other's technology.

Such a move would certainly legitimise the MCA-bus which, without a major boost of this type in the PC market, is likely to be consigned to a specialist niche, with demand largely confined to existing IBM devotees.

In the rumour-ridden PC industry, there is growing implicit confirmation that IBM needs such legitimacy badly. There is talk of the company

Amstrad has recently signed a cross-licence deal with IBM, giving each of them access to the other's technology

being ready to introduce a new model in the PS/2 range, the Model 35. This, according to the rumour, will be based on the Intel 80286 processor, and will be equipped not with the MCA-bus, but with the older PC/AT industry standard bus instead.

IBM is not commenting on such a move, but if it occurs it could be a significant blow to the prestige of the new bus. If IBM is launching a non-MCA machine, then there are those who would argue that the company has a lack of faith in its future.

MCA is certainly lacking in extensive credibility in the market and now faces an uphill struggle to compete against the existing bus standard. MCA has come in for some scathing criticisms from the likes of Rod Canion, President of IBM's arch-rival, Compaq. This company has publicly decided to stand by the standard PC/AT bus for its systems, despite having a cross-licence agreement with IBM that would, in theory at least, allow it to produce MCA-equipped computers.

Some other manufacturers with rights to produce MCA

machines seem to share Canion's reticence. Dell, for example, had been expected to have a system out by the end of this year. However, according to Mr Andrew Harris, its UK managing director, the launch has been put back to the first quarter of 1989 because of a lack of demand.

The reasons behind the decision of companies such as Compaq to stay with the old bus, and the relative failure of

Amstrad has recently signed a cross-licence deal with IBM, giving each of them access to the other's technology

MCA-bus, are partly technical. More importantly, they have been determined by market conditions, especially for applications software, following the launch of the PS/2 last year.

The technical problems relate mainly to the simple fact that the specifications for the MCA bus are markedly different from the industry standard PC bus. IBM's intention has been to design a bus that is much faster and more capable of coping with the demands made on the hardware of users running multi-tasking software. IBM claims that the PC bus is weak on this front, as well as slow.

Compaq would deny this, however, and claims that by careful design of the main circuit board of the computer, plus the incorporation of a high-speed internal bus, the standard expansion bus need not be changed.

There is also the suggestion that other industry-standard bus specifications, such as the Multibus II standard developed by Intel, are better than the IBM design. Selecting one of these, the argument runs, would have opened up a much

wider market for both the PS/2 and the existing manufacturers of expansion buses.

Market pull is IBM's major problem with the MCA-bus. There is little current demand for the MCA-equipped PS/2 because there is little applications software available to run on the machine. Software developers and users are still awaiting the arrival of the Extended Edition of the OS/2 operating system, without which there is no point in buying new applications software.

This, in turn, means there is little point in buying a PS/2 just to act as a "go-faster" PC. Amstrad producing an MCA-equipped computer would certainly give the new bus credibility, but given the company's prime objectives, there must be doubts that it will launch such a system immediately.

Amstrad specialises in exploiting an existing market, as it has done so successfully with the PC.

It has not been the company's style to go out and develop a new one. Even if Amstrad does help IBM turn the MCA bus into a major success, the industry-standard PC and PC/AT buses will not go away.

In addition, for many users, such as small businesses and individual professionals, the traditional PC technology will offer more than adequate capabilities for many years to come.

MCA systems will prove to be a benefit only when they require big, fast systems to run multiple applications under an operating system such as OS/2 or, perhaps more possibly, UNIX. There are enough users of this type to make a successful market, but for now most of them are still sitting on the fence.

Martin Banks
A challenge for IBM - see page 10.

PERSONAL COMPUTERS AND SOFTWARE 5

Evolution of networking and open standards
A very hot issue

MODERN NETWORKING technologies and the growing use of Unix, the multi-user, multi-tasking operating system, are beginning to make nonsense of conventional definitions of the "personal computer."

The latest supercomputers from Cray Research, the world's leading scientific computer manufacturer - the Y-MP, the Cray 2 and the soon-to-be-launched Cray 3 - all run Cray's own version of Unix, Unicos.

Multi-user computing

Unix broadly accepted

MULTI-USER computers have long been considered rather specialised machines, found normally in large organisations and specialised computing centres - applications on a fairly granular scale.

Suddenly, however, they have come to the forefront of computer industry thinking primarily because of the operating system which has predominated in that specialist market - Unix.

The Unix operating system, developed by AT&T's Bell Laboratories many years ago, has been popular in the multi-user systems market because of its ability to run multiple tasks for multiple users.

For a long time this has been a rather specialist requirement, but as the power and performance of the personal computer have expanded to match that of the traditional minicomputer, so the use of Unix as an operating system has spread.

Its chief advantage is that it has a measure of hardware independence. This means that an application program written to run under Unix on one computer will run on a different type that also runs Unix.

In practice, this portability has required a certain amount of re-writing of the application, but far less than the complete re-write that would otherwise be necessary.

To this capability must now be added some other, inter-related aspects. The growth in power of the PC has led to its use in the multi-user environment. PC-based systems running up to 32 users are commonplace, and the availability of Unix has given software developers the opportunity to write their products once and gain access to a rapidly expanding target market.

The PC itself, with its MS-DOS operating system, has demonstrated to give the most cynical of businessmen that portability of applications software across a common hardware environment, regardless of the manufacturer, is an extremely useful capability.

Here, the users are beginning to drive the computer makers, and multi-user users are finding themselves in a leading role. The X/Open organisation, the group of leading computer manufacturers which recently gained IBM as a member, is setting out to bring together the necessary hardware and software standards which will make the users' needs for open systems a reality.

It settled on Unix as its target operating system from the outset, primarily because that was the only available that offered even a modicum of machine independence. It has subsequently brought together a wide range of standards that define the type of portability for applications that users want with open systems.

This, in essence, makes the ability to run an application on a wide range of different hardware environments without re-writing, the ability to communicate between applications running on different systems, the ability to link together different types of computer - for example several PCs, some multi-user systems and a mainframe, in the way which is most convenient to the user.

A wide range of standards are required to achieve this, including communications protocols and common user interfaces. The most important standard, however, is the operating system and almost everybody now seems agreed that Unix is the answer.

There are problems here, of course, for that is no simple Unix available. AT&T hindered the system's early development by charging a huge licence fee to potential customers. The computer manufacturers went off, therefore, and created a large number of similar, but generally incompatible Unix-like operating systems of their own.

The company has since started the process of recovering this situation, but has still managed to annoy and frustrate many manufacturers independently for them to band together to form the Open Software Foundation. This has adopted IBM's version of Unix,

network. Within five years, Seymour Cray, Cray Research's founder and chief designer, expects to be able to build a supercomputer that is not much bigger than a pocket calculator. Built into a network, it would afford individual users access to enormous computing power. As John Kollwagen, chairman of Cray Research puts it: "Supercomputers are becoming a personal-computer business."

Networking is the next great stage in the evolution of business computing. As the magazine Insight IBM says: "The microcomputer marketplace is in the very early stages of polarising towards two extremes: co-operative processing on the one hand in which the personal computer is an intelligent workstation embedded in a network of similar and dissimilar systems; and on the other, freestanding, independent and typically portable systems for which there is no better generic term than personal computing."

Co-operative processing seems to hold the key to the future. To date, the conventional picture of a data processing system for a medium to large-sized company comprised a mainframe computer in the data processing centre, a mini-computer in the department or subsidiary and a personal computer, or workstation, on the desk.

The picture is changing to encompass a mainframe (which could be a supercomputer) in the data centre linked through a company-wide network to workstations, printers, electronic filing systems and so on. In turn, each company-wide network would have connections to other company networks, creating a computing equivalent of the worldwide telephone system.

The creation of such a network is dependent on common interconnection standards, just as it was for the telephone system, which is why standards - and particularly open standards - have suddenly become a very hot issue in the com-

puter business. And not only a very hot issue, but a very confusing one, with manufacturers adopting a variety of often contradictory stances.

For some years now, the world's standards organisations have been agreeing a set of rules for the connection of any computer system to any other computer system - Open Systems Interconnection or OSI. Divided into seven sections of "layers", the OSI rules are close to completion.

Furthermore, they are supported by all the major vendors including IBM, Digital Equipment, ICL, Unisys and NCR. Some like Unisys have buried the principles of OSI deep in the design of their machines. Others - IBM is the best example - have retained proprietary networking systems for connections between their own equipment while providing a "bridge" special translation software, to OSI-based systems.

Because of the significance of IBM in the world data processing market, however, most

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wide area or local area networking. Wide area networking involves all the techniques essential to enable computers to communicate over long distances - typically a complex and expensive business.

Local area networking, the principle technology where personal computers are concerned, involves ways of moving information economically over short distances - typically within a building or suite of offices - at high speeds with high levels of accuracy.

Leaders in LAN technology include Banyan, Novell, 3 Com and IBM, all of the US. A recent survey by the US research consultancy, Datapro, suggests that new standards will evolve for network management in the near future,

possibly based around IBM's Netview, its set of performance measurement and problem determination tools.

The confusing nature of developments in this area, however, has been accentuated by IBM's launch of its new series of personal computers, the Personal System/2. These have a new operating system, OS/2, written by the US software house Microsoft, and OS/2 has its own networking software called LAN Manager.

Nevertheless, the majority of major computer vendors, mainframe, mini and micro, are agreed that Unix should be the basis for the standard operating system for small and medium-sized computers.

The principal lobby for this viewpoint is X/Open, an international organisation whose members include AT&T, Bull, Digital Equipment, Fujitsu, Hewlett Packard, IBM, ICL, NRC, Nixdorf, Nokia Data, Olivetti, Philips, Siemens, Sun Microsystems and Unisys.

The aim of X/Open is to establish a "common applications environment (CAE)", a standard interface between the computing hardware and the applications software conferring two valuable benefits.

First, customers would be able to run the same applications software on hardware from any vendor offering the CAE. And, second, software

developers would feel encouraged to write applications programs knowing they could be run on a wide range of hardware.

X/Open's aims include not only the establishment of a common applications environment, but also a common user interface (X Windows) and a common networking standard (XTI or X/Open Transport Interface).

As an X/Open member, IBM is of course at one with these aims. It is also a founder member of the Open Software Foundation which is developing a

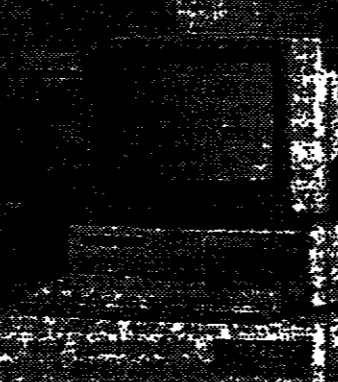
version of Unix based on IBM's proprietary AIX operating system.

Essentially the job of X/Open and other organisations in the computing standards arena is to find a way to cut through the technological foliage and give computer users a clear view of what networking and networking standards involves.

There can be no doubt that the networked computer is the way of the future - but at present, how that future will evolve is far from obvious.

Alan Cane

European PC sales - 1987



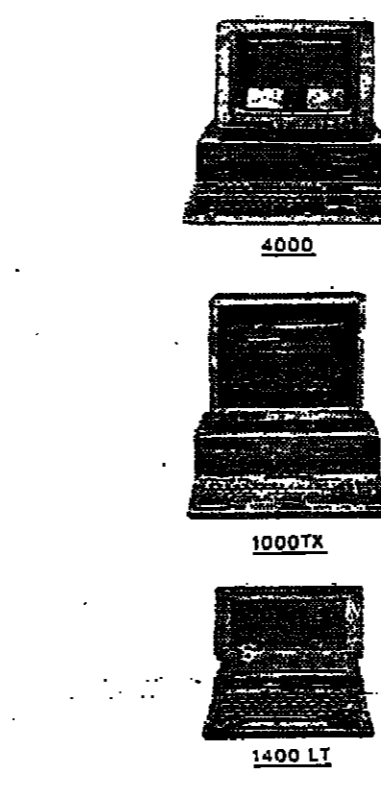
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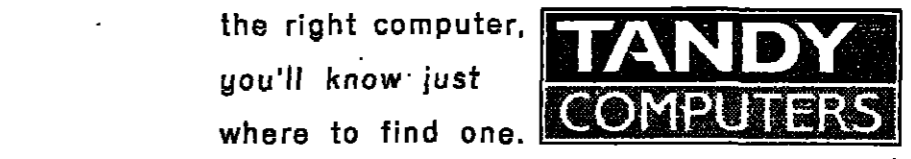
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PERSONAL COMPUTERS AND SOFTWARE 6

High performance personal computers

Distinctions blurring

THE DISTINCTION between high-powered technical workstations and personal computers is becoming less clear.

Workstation manufacturers are beginning to produce devices which possess many of the attributes of PCs, while PC manufacturers are building systems which are powerful enough to poach on workstation territory.

This common ground has largely been created by the availability of 32-bit microprocessors, the most influential of which is the Intel 80386. The 80386 is the most powerful of the family of processors used in the IBM and compatible PCs which dominate the market.

Its speed and performance have allowed companies such as IBM, Compaq and Olivetti to develop systems which can be used for processing-intensive applications such as computer-aided design and finance - areas where workstation manufacturers have staked their claim in the past.

The 80386 has also allowed workstation manufacturers, such as Sun Microsystems, to build products which offer the level of function associated with their workstation products combined with the ability to run software written for PCs.

Sun, the leading producer of technical workstations, was the first to bridge the gap between workstation and PC when it introduced its Sun 386i in April 1988. The 386i is based on the 80386 processor running, as do the most powerful PCs from IBM and Compaq, at either 20 or 25 megahertz.

Like the other workstations in the Sun range, it can run software written for the Unix operating system. Unlike the others, it can also handle MS-Dos, the operating system for which most PC software is written.

Sun developed the 386i in response to pressure from two different groups of users, according to Mr John Coon, UK marketing programmes manager. "There was pressure from workstation users who wanted to take advantage of the huge number of applications available in the Dos world, and there was pressure from PC users who wanted to move up to Unix."

The 386i is a conscious attempt on Sun's part to provide a bridge between work-

stations and PCs. Its pricing reflects that effort. At the low end of the range the 6,000 model is in line with the prices for high-powered PCs; at the high end the 18,000 is more typical of workstation pricing.

Target markets for the machine are not dissimilar to those aimed at by PC manufacturers, with the financial sector and small to medium-sized businesses among those on the list.

PC manufacturers also believe that the lines between the workstation market and their own are becoming blurred. Not surprisingly though, they view the phenomenon from a different angle.

Sun is at some pains to stress that the 386i is not a PC but a workstation which is designed for networks - in an effort to steer clear of the hurly burly of the PC market. By including the machine in its Systems Application Architecture - an overall plan which should eventually mean that users will be able to run the same software on their IBM PS/2, mid-range AS/400, or mainframe System/370 computers - IBM is trying to place the PS/2 in an overall computing context for its customers, something it has never done with its PC range.

This is certainly IBM's intention with its new PS/2 range. By including the machines in its Systems Application Architecture - an overall plan which should eventually mean that users will be able to run the same software on their IBM PS/2, mid-range AS/400, or mainframe System/370 computers - IBM is trying to place the PS/2 in an overall computing context for its customers, something it has never done with its PC range.

The technology will be available for PC manufacturers to continue to push their products to new heights of performance. Some examples of the 80486, the next generation of processor from Intel, are expected to be available in the first quarter of 1989.

The company, Unisys, has already said that it will be building a PC system based on the 80486. Like the products from workstation manufacturers, it will run the Unix operating system.

To protect themselves from this attack from below, more workstation manufacturers will have to add bridging products to their ranges. To keep their customers happy they will have to offer them the best of both worlds by providing the facility to run MS-Dos-based software.

It will be some time, if ever, before PCs can challenge the technical workstations in their true strongholds. But they are fast encroaching on the periphery.

The combination of these three factors gives high-end PCs many of the qualities of low-end workstations: they can now perform complex tasks as part of a distributed processing system. As a result, Mr Stone says: "We're certainly starting to see PCs in areas of business where companies would never have considered them suitable two or three years ago."

The middle ground between these two camps is likely to become even more fiercely competitive in the future. It is now popular for PC manufacturers to refer to their PCs as workstations. By this they intend to convey the idea that their PCs are no longer simply individual, or personal, computers, but systems which are integrated into a larger corporate computing whole.

Take IBM, which makes more memory chips than any one else in the world - according to Mr Standford Kane, vice-president of the company's general technology division: "We're buying everything we can of 256K and Megabit dynamic RAM." These are the two most commonly used memory chips.

If IBM had not found a way out of the problem except by astute buying, then there probably isn't one.

The buyer's problem derives from the economics of new chip production which dictate that the latest chips are introduced at a high price when production volumes are low and are then reduced in price by between 25 and 50 per cent as production volumes increase.

The PC manufacturer's problem is deciding at what point on this declining price curve a contract should be signed. If he commits himself to supplies at a high price he may find his competitors have waited longer and been able to buy chips cheaper, and can undercut him in the PC market.

If, on the other hand, the PC maker waits too long for the price to drop, supplies may not be available when needed, which can hold up the manufacturing programme and allow his competitors to beat him to the market.

A way out of the problem which larger companies employ is to maintain permanent chip-buying agencies in San Francisco, Tokyo and Hong Kong to take advantage

of the thriving "spot" market in chips in these cities. Smaller companies often maintain contacts with independent buying agencies in those places.

These "spot" markets are supplied by three main sources: by chip manufacturers wanting to make quick profits when prices are high; by speculators who buy chips and hold them in the hope of price rises; and, third, by equipment manufacturers unloading chip stocks to make a profit on the difference between the price at which they have been supplied by chip manufacturers and the price they can get for them on the spot market.

Component shortages have caused the postponement of a new PC product launched by Hewlett-Packard, raised prices at Amstrad, have curtailed production at Sun Microsystems, and led to PCs being marketed without key components - leaving purchasers to supply their own.

Last year the key shortage was microprocessors, this year it is memory chips. However, even if a PC manufacturer decides to make his memory chips, as Jack Tramiel did when he owned Commodore, he may still have problems.

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Margaret Coffey

Shortages of key components

Problems for manufacturers

whether it's worth putting memories in our products which have cost say \$15 over the scheduled price. There's a threshold which it's not worth going over."

This year's unofficial sources of supply have been particularly important because chips from the "official" sources of supply - chip manufacturers and their franchised

distributors - have not conformed to the normal pattern of price erosion.

As late as June, Mr Sadru Nanji, who is director in charge of ICL's chip procurement, was saying that he had seen no price erosion on the latest generation of DRAM, the Megabit. Normally, after a year on the market prices would have reduced by at least 30 per cent. The Megabit has been on the market for 18 months.

Accordingly, any PC manufacturer who relied on normal patterns of price erosion as a model for his buying this year could have waited too long and found himself without supplies and having to buy on the spot market where

prices have been consistently more than \$30 a chip and sometimes as high as \$40.

There has been one change since June. In July Texas Instruments ordered its distributors to slash prices on Megabit DRAMs from \$30 to \$20. It is not certain, however, that the market will follow Texas' lead because the Korean company Samsung responded to the move by increasing prices on its own Megabit DRAM by 50 per cent to \$30.

This situation shows the PC manufacturer's problem. A PC maker producing a product with the average 640 kilobytes of RAM memory will require five Megabit DRAM chips (because 1 byte = 8 bits). This year's cost of such a PC's memory could therefore have been either \$209, \$150 or \$100, depending on whether the manufacturer bought "spot", or from a Texas distributor before the price cut, or from the same source after the price cut, or direct from a manufacturer on a scheduled contract.

This has been a particularly difficult year for PC manufacturers because even scheduled orders sometimes have not been met by chip manufacturers. There have been many complaints that chip manufacturers have failed to meet delivery times on scheduled orders and have "renegotiated" the contract price upwards.

Chip manufacturers point to two reasons for these practices. First, the Japan trade pact

which obliged the Japanese to limit new production facilities and monitor all chip exports to Europe - which caused bureaucratic delays. And, second, the changeover from 266K DRAM manufacturing to the more powerful Megabit DRAMs with the Megabit turning out to be more difficult to make than expected.

Consequently there have been few companies able to produce in volume quantities. Two months ago there were only four companies in the world which could make the Megabit in quantities of more than 1m a month. Now seven companies are able to do that and by the end of the year there will probably be ten or eleven.

The solutions to the PC makers' problems are therefore stark: either live in a world where there are many suppliers or employ a very shrewd buyer.

There is one other solution. That is to replace the "adversarial" relationship between the buyers and sellers of semi-conductors by a relationship of cooperation in which the buyer flags his requirements well in advance and sticks to his forecast, and the chip supplier delivers the requirement on time and at the original negotiated price.

That, however, would be a very untraditional way for the equipment and chip industries to conduct their dealings with each other.

David Manners

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Larger manufacturers maintain permanent chip-buying agencies in San Francisco, Tokyo and Hong Kong to take advantage of "spot" markets.

LOCAL AREA NETWORKS

Boost for productivity

USERS ARE getting the message: the use of local-area networks (lan) in the right circumstances increases productivity.

A study at Touche Ross, the accountants and management consultants, showed an average improvement of 10 per cent in productivity across a department of 25 partners, managers and secretaries.

The applications used most frequently were document origination and electronic mail, the most frequently used in lans based in an office.

Existing lan users will be heartened by such case studies. And the technological developments in the pipeline for lans over the next two years will give more users the confidence to at least experiment.

But these developments will not have a widespread impact for another two years or more. The computer industry, which prides itself on its track record of getting technological developments into the market quickly, is itself puzzled by the slow pace of lan developments.

The most immediate development in lan technology will affect electronic mail, almost always a main use of lans. The international standards organisations have been defining a common standard for handling messages, called X400.

The popularity of X400 initially will be low because it will give users few advantages: they will be like pioneering telephone users who cannot call anybody because other people do not yet have telephones, says Paul Gigg, general manager of Case's Impact on lans. But when the popularity

of X400 starts to grow it will be like an avalanche, he says.

The development of X400 interfaces is part of an overall move to implement the Open Systems Interconnection (OSI) standards in lans. The OSI model describes how a network should handle communications. If two OSI-based networks try to talk to each other they should have an easier time of it than if they did not conform to the OSI model.

The lower levels of the OSI seven-layer model have been implemented in lans already. These lower levels deal with

the physical transport of bits across the lan and with issues such as where the address for the data should be within the message.

But standardising bit patterns and message outlines is not enough. All the equipment attached to the lan has to agree on the meaning of the bit patterns, on what the message structures are to be, if true communications is the goal. Work on implementing these levels of the OSI model is under way among lan manufacturers.

Standards are all very well, but users are becoming concerned that the differing standards under development will not harmonise.

At one level a number of vendors are implementing OSI-based lan standards. On the other IBM is developing a set of standards, techniques and conventions in its Systems Application Architecture (SAA). SAA is designed to give common ground for applications, user techniques and communications to IBM's proprietary systems.

High-speed lans will not, in the main, replace the conventional lan. Instead, it is expected by suppliers like Case, that high-speed lans will be used as a backbone for other slower lans. This spine will handle bulk data traffic and access to higher-speed services as well as connecting individual lans.

The high speed lan will need to use fibre optic cable to carry the signals and attach to the faster devices which run through the control software.

This technological development of SAA will have a large impact on lans. Part of SAA is Common Commu-

nications Support (CCS). This provides standard connections for all SAA-based systems.

Details of CCS are being worked out and lan vendors will want to see how IBM implements the ideas behind it before committing themselves to their implementation. But lan vendors will have to track both SAA and OSI developments if they are to remain in the mainstream of lan technology developments.

Standards are not the only development: speed is also increasing. Most lans now handle speeds in millions of bits

per second. This gives the 30 or 60 workstations attached to the average lan adequate performance. But as more devices are added and these devices become more powerful - such as mainframes - the speed needs to be increased.

Olivetti's laboratory in Cambridge is experimenting on lans with speeds up to one billion bits a second, as are other vendors. The standards for these high-speed lans are not as developed as those for lower-speed lans now being implemented.

But two standards for high-speed lans are under discussion which will be implemented in the next two years.

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PERSONAL COMPUTERS AND SOFTWARE 7

COMPUTER PRINTERS

New levy puts large market in a state of flux

WHILE THE basic purpose of a printer is to put ink on paper, users' actual requirements vary remarkably. Even where the highest quality is not necessary, or cannot be afforded, the appearance of the finished document can influence the reader.

Not only is printer technology evolving at a rapid pace, but the market is large. According to International Data Corporation, it was worth over \$3bn in 1987.

Today it is in a state of flux, because of the EEC anti-dumping levy of 33.4 per cent (on top of the 4.9% import duty) on dot matrix printers (DMPs) from Japan which came into force at

the beginning of this month. Epson views this as protectionism, where the only sufferer will be the consumer. The company points out that European prices are already significantly higher than those in the rest of the world, with, for example, a printer that costs \$500 in the UK costing just \$500 in the US. It is well qualified to appreciate the situation, because it is the European market leader in the middle sector for DMPs. While EEC manufacturers account for only 17 per cent of the market, it has 45% with other Japanese manufacturers around 38%.

It is too soon to see what the effects of the levy will be. The

decreasing price differential with respect to other printers may accelerate the move to laser printers; alternatively, prices of all printers might drift upwards.

The daisy-wheel, once the staple office high-quality printer because of its crisp image, has given way to the laser, because of speed and noise level, as well as its being constrained to printing only the characters on the daisy-wheel. DMPs, which were widely used to provide draft quality at high speed, can now also provide near letter quality print.

Despite the improvement in dot matrix technology, many users would switch to laser printers were it not for high initial and running costs, except in circumstances that specifically require an impact printer - for example, where multi-part forms are being printed.

Competition in the DMP market has led to better quality from print heads incorporating up to 24 pins, higher speed (both draft and letter-quality), wider ranges of type fonts and typestyles, graphics, and improved paper handling. The latest printers incorporate a "paper-parking" facility, which obviates the need to remove continuous stationery from the printer in order to insert a cut sheet or an envelope.

For versatility, the DMP is unequalled, at prices from \$200 upwards. In essence, you pay your money and take your pick to obtain the machine that best meets your requirements.

For example, the FX-850/1050 printers, which had recommended prices starting at \$459 (prior to levy), are the latest versions of Epson's long-established line of 9-pin DMPs. The two models are respectively 80 and 136 columns wide, and both have print speeds of 264 cps for draft and 54cps NLQ (near letter quality). A selection of typestyles is built into the printers and can be called up as required in normal or italic type. Text can be enlarged to double-width and double-height, to create added impact. As Epson printers tend to be *de facto* standards, most, if not all, of these features will be easily accessible when used in conjunction with modern software packages.

One of the many printers on the market that competes with this and other Epson printers is Star's LC24-10, a 24-pin

machine designed for professional computer users who require a maximum carriage width of 10 inches. At \$279 (prior to levy), it offers speeds of 170cps draft and 57CPS "for true, professional letter quality output". As well as eight built-in fonts, other fonts can be provided by means of plug-in cards.

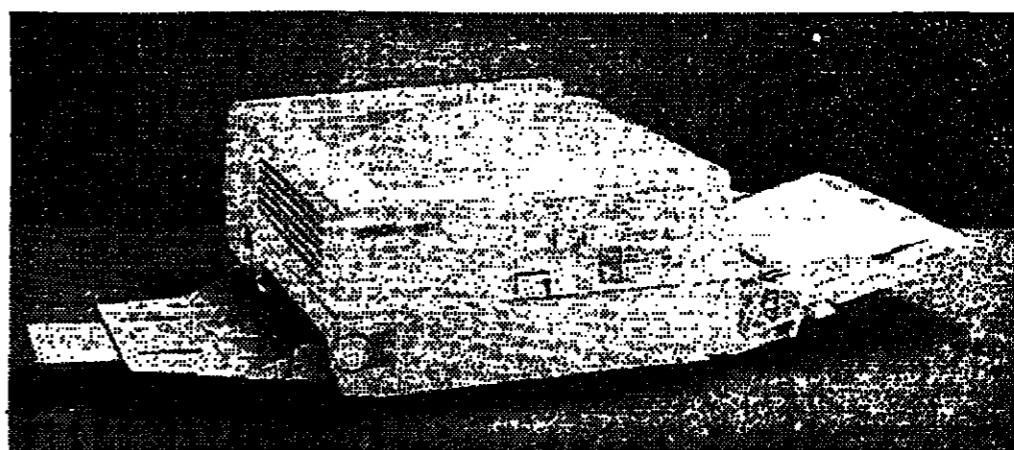
While, for the average user, it is a matter of comparing features, special applications require special printers. Gianluigi Bertino, Northern Europe Sales Director of Honeywell

Bull (Itaba), a company that specialises in high reliability printers for continuous office use, points out that "you get what you pay for. Jobs with long heavy runs, like the continuous printing of delivery notes, need engineering that will stand up to a pounding. They must not only be reliable to meet the needs of the job, they must also be low-noise to meet the needs of staff."

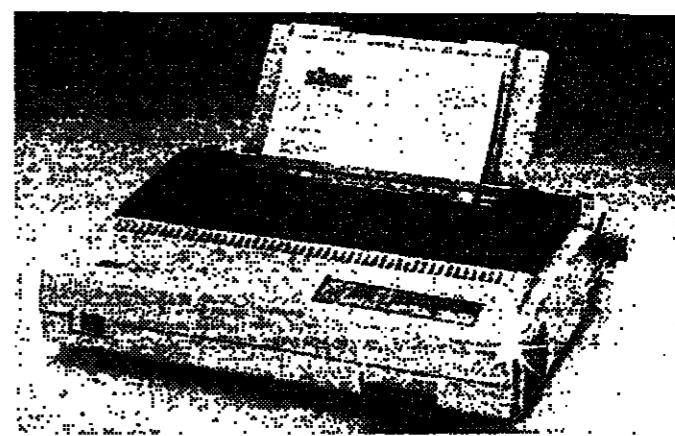
West German company Philips Kommunikations Industrie appears to have taken versatility to the extreme with its GF310 DMP. Fourteen are available in the machine, each printable in double height and/or double width. It employs a multi-coloured ribbon, allowing printing in standard black plus three basic colours (cyan, magenta and yellow). Under software control, the colours can be combined to produce a variety of mixed colours (near full-colour printing). It will also accept a black ribbon when colour printing is not required.

The higher resolution (300 dots per inch), low-noise graphics capability, together with high throughput, makes the laser printer the ideal choice for the busy office, as long as multi-part forms, colour, or large paper sizes are not required. Its cost, complexity, and the use of consumable toner pushes the cost per page above that of DMPs. Nevertheless, where a steady stream of work is required, carried out almost silently at a rate of five to eight pages a minute, it is unequalled.

However, the Hewlett-Packard DeskJet is a taste of what is to come. At less than \$800 - half the price of a laser printer - it provides quality comparable with that of a laser printer.



■ Epson's laser printer (above), model GC3500. ■ Right, Star's LC24-10 professional quality printer, one of Epson's many competitors. Dot matrix printers, once widely used to provide draft quality print-outs at high speed, can now also provide letter-quality print.



It is an exceedingly low-noise machine which will, according to H-P, print on virtually any reasonable grade of paper. It has a rated throughput of around 50 pages a day, and the company describes it as a personal printer.

While this is well below the output demanded of a busy office, there are many users who need this high quality and who have only a relatively low output. Thus, it could be a viable alternative to the laser. Unfortunately it appears that, for a while anyway, it will be available with a good range of fonts but not with the full support to enable it to meet full DTP requirements. Maybe it is so good that H-P is afraid that it would eat into its own laser printer market.

For the man who has nearly everything, there is also the new Tektronix 463D thermal wax printer, at \$7,900. This produces colour images at the normal laser printer resolution of 300 dots per inch (DPI) by heating coloured wax and fusing it to overhead transparency film or paper.

It was launched six months ago for engineering and CAD/CAM applications, and is now being directed at the growing desktop presentation market. While it is beyond the reach - and needs - of most users, it may be the harbinger of products that will offer comparable performance at lower prices.

Adrian Morant

STORAGE TECHNOLOGY

Era of the laser disk

PERSONAL computers are no longer isolated islands of computing. In many cases they are being used as powerful personal workstations attached to the company mainframe.

But just as frequently, particularly in the smaller organisations that cannot afford mainframe computers, they are being used to drive multi-user systems and/or within local area networks.

The latest PC software applications also demand considerably more storage space than their predecessors; a picture may be worth a thousand words but it takes up considerably more disk space.

While a large word processing text file might require, say, 50 kbytes of disk, the same text laid out within a desktop publishing file might require 500 kbytes.

There is also a growing tendency and requirement to use the computer system as a document filing cabinet, especially in connection with text retrieval software. For whatever reason, the storage capacity of the original PC/XT (10 Mbytes) is woefully inadequate.

The demand for increased storage capacity at little or no increased cost has done two things: it has created a hole, and it has spurred the development of laser disk technology.

It has also created a new market for replacement hard disks, where users can buy higher-capacity Winchester and install them into existing PCs.

This is a useful but dangerous exercise. The danger is in buying the cheapest replacement available - and cost is almost the last thing that should be considered. Corporate data is corporate lifeblood and should not be entrusted to an inexpensive product from the local high street with a photocopied sheet of instructions and no backup.

A spokesman for Ideal Hardware, one of the country's major hard disk distributors, says: "I would always recommend that users get their supplier to undertake the upgrade - but if they insist on doing it themselves, then Priam is probably the only supplier that produces suitable products with satisfactory back-up."

While such products give an upgrade route for existing users, they do not in themselves indicate the way disk technology is evolving.

Floppy disks are showing the least development. This is because every PC must have a drive that is suitable for program distribution - which means that they must all be as compatible as possible.

The current situation is probably as varied as it dare become: PCs in general use 5.25in disks with 360 kbytes capacity; ATs use 5.25in disks with 1.2 Mbytes capacity; and PS/2s use 3.5in disks. The operating systems may be the same, but the disks are not generally interchangeable.

Suppliers are already being forced to provide software on both 5.25in and 3.5in, and it is becoming a significant cost factor. Any further fragmentation would be intolerable.

So, although floppy technology is actually able to offer disk capacities of 1 Mbytes or more, we are unlikely ever to see this reach the market.

Hard disks (often called Winchester because they are thought to have been developed by IBM at its Winchester laboratory in the UK) are a different matter. They are used solely for data and program storage, not for program distribution.

Because of this, it is perfectly possible for every single PC to have a different size and capacity hard disk.

Options include card-based systems (that simply plug into the internal expansion slots within the PC) already able to provide up to an additional 100 Mbytes; replacement disks; or additional external hard disks. The latter two provide the

greater capacity currently available; indeed, Maxtor provides a hard disk with a storage capacity of 80 Mbytes. To put that into context, it is the equivalent of 80,000,000 characters, or nearly 3,000 novels of 50,000 words.

Strange as it may seem to the stand alone PC user struggling to cope with his or her 10 Mbyte hard disk, 80 Mbytes is still not enough. When an engineering department wants to store its library of drawings on-line; when a document department or typing pool has 20 or more users all storing all of their documents on one single storage device, even 80 Mbytes is soon consumed.

Put simply, magnetic media is unlikely to satisfy the projected demands of even PCs - never mind the requirements of local area network file servers, or the 100+ multi-user systems driven by Motorola 68030 and Intel 386 and 486 microprocessors.

Because of this, there is a great stampede by all the major disk producers to develop the first - and therefore the likely *de facto* standard - laser disk.

The capacity of laser technology is enormous: it is measured in tens or hundreds of Gigabytes (1,000 Megabytes). But there are problems. The first is the permanence of the data - most laser writing techniques permanently alter the surface of the disk itself.

Several different laser technologies exist, but the difficulty is in finding a technology suitable for rewriting.

Many magazines talk about the advent of "erasable" optical disks. This is a misnomer. There is little problem in erasing the data on an optical disk; the problem, and the requirement, is to rewrite new data over the old.

For this reason, the coming technology should be called "rewritable" rather than "erasable." Future rewritable optical disks probably will be based on magneto-optic technology - that is, like current magnetic disks the surface will be magnetised but the magnetising implement will be light.

Today, despite several announcements about the nearness of rewritable optical disks, we still have write-only disks. These are generally known as Worms (Write Once, Read Many). They are ideal for the storage of on-line large scale non-changing databases - bibliographic text databases, for example.

But they are also useful wherever the application demands a security audit trail. Since the disk space cannot be re-used, any alterations to the stored data are recorded elsewhere on the disk. This means that there is a permanent record of everything that happens to any file.

Rewritable disks using magneto-optic technology are already possible. They will inevitably begin to make inroads into the existing Worm market when they are finally produced.

But the main problem with rewritable optical disks is one of speed. At the moment, the technology can take up to five disk revolutions to perform a single rewrite. This creates a potential bottleneck.

The microcomputer can now handle dozens of users, and the laser disk can hold billions of characters, but the whole process is slowed down to the speed of the disk access technology. It is like a string of Jaguars racing each other to the next traffic lights.

Manufacturers are now working on two developments: methods to reduce the number of revolutions required to a maximum of two, and the ability for disks to be nominated as either Worm or rewritable.

Both these developments are likely to be available by the spring of 1989. But their acceptance will depend on one major factor: the extent to which the user is willing to abandon past records in favour of electronic records.

Kevlin Townsend

Epson views the EC's anti-dumping levy of 33.4 per cent on dot matrix printers from Japan as protectionism where the only sufferers will be the consumers.

machine designed for professional computer users who require a maximum carriage width of 10 inches. At \$279 (prior to levy), it offers speeds of 170cps draft and 57CPS "for true, professional letter quality output". As well as eight built-in fonts, other fonts can be provided by means of plug-in cards.

While, for the average user, it is a matter of comparing features, special applications require special printers. Gianluigi Bertino, Northern Europe Sales Director of Honeywell

It was launched six months ago for engineering and CAD/CAM applications, and is now being directed at the growing desktop presentation market. While it is beyond the reach - and needs - of most users, it may be the harbinger of products that will offer comparable performance at lower prices.

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Creating value

PERSONAL COMPUTERS AND SOFTWARE 8

High performance microprocessors Designers' dilemma

GORDON MOORE, co-founder and chairman of Intel and a legend in the semiconductor business, is famous for having postulated several fundamental laws of that industry. Two of them have specific relevance to the growth and potential of the microprocessor and its application in future personal computers.

His first law states that the number of transistors that can be designed into a single chip will double every 18 months. Moore first suggested this some 20 years ago, and it still holds true.

The first semiconductor memory produced by Intel for example, could store just 256 bits. The largest dynamic memories now in production can store 1,024,000 (1 Mbit), 4,000 times as much. The next jump, to 4 Mbit capacities, should happen soon.

Moore's second law states that as the transistor count goes up, so does the potential number of different functions which can be designed into a single chip. As the number of functions actually designed in to a chip goes up, the number of potential applications goes down.

This poses semiconductor designers with a dilemma. The technology gives them the facility to design a wide range of different functions into a single chip. The more functions they put in, however, the more over-specified and less relevant a chip will become to the majority of users.

The importance of these laws is now becoming apparent to the personal computer business, for the potential of rapidly advancing the power and capabilities of the machines has to be balanced against the realities of the market. In particular, the very success of PCs, and the attendant wealth of applications software available, is a significant drag on technological development.

Intel's success with its range of microprocessors, for example, may have pleased the company's bank manager but it has severely restricted its scope for new designs and developments. The 16-bit 80286 processor, and the new 32-bit 80386 processor, have been specifically designed to accommodate software previously written for the hugely-successful 8086 processor.

The software drag is most noticeable in the personal computer business, where PCs using the MS-DOS operating system have sold in their hundreds of thousands. Any future processor aimed at the PC market will need to be designed with this in mind.

Intel itself is facing this problem. Next year it plans to introduce a new high-end processor, the 32-bit 80486. This, the company states, will contain some 1m transistors, compared to the 300,000 transistors used to create the 386 device. Yet it will, of necessity, be compatible with the existing processor.

The company has therefore had to face the design dilemma

The more functions built into a single chip by semiconductor designers, the more over-specified and less relevant it becomes to the majority of users

of its chairman's law. In this case, early indications are that the 486 processor will add functions to the 386 in specific areas.

It will, for example, utilise pipelining architectures so as to boost the throughput of instructions in the processor. It is also expected to be a design that includes some measure of parallel processing capabilities optimised for running artificial intelligence applications.

The same software drag can be seen in another major semiconductor manufacturer, Motorola. Maker of the successful 68000 product line which powers the Apple Macintosh among other PCs, the company's processor development programme is now directed towards improving and enhancing this basic design, rather than radical changes.

Squaring the software drag against the technological push means that future processor design will continue to bare the marks of such restraint in many areas. For example, though Intel has speculated that a super-fast processor

with up to 100m transistors will be possible by the year 2000, it is difficult to see how so much power potential will be applied to the software then available.

Areas where it can be applied successfully do exist, however. Future processors may well be still compatible with 8086 and 68000 software code, but they will include much of what is now achieved with separate devices in current computer designs.

It is likely that a wide range of control functions - for example input/output, disk management and graphics - will be incorporated into the processor, together with the system memory required. This leads to the idea of a single chip implementation of, for example, today's IBM PS/2 Model 80.

Not only will this allow small, cheap PCs to be produced, it could lead in turn to developments in parallel processing. This is the coming style of computing generally, with devices like the Transputer from Inmos leading the way.

Applications software is still the major problem, however. Outside of specialised graphics applications, there is currently no general applications software available for the Transputer. This may change, however, as an implementation of Unix is under development for the processor.

If it proves successful, this would open up the potential to run many Unix-based applications on a parallel processing machine. The idea of single chip PC processors running existing applications in parallel is another way in which semiconductor technology might be adapted to square with the software drag.

A major contender for a place in any future personal computer is the Reduced Instruction Set Computer (RISC) chip technology. A number of these device types are already available, and while some argue about their efficacy outside of specific applications areas such as Computer Aided Design, they are already becoming the chosen route for high-powered, Unix-running workstations.

We have now entered the age of graphics-oriented rather than character-oriented micro-computing. Ever since the Macintosh appeared, rivals have flattered it by sincere imitation. Indeed, the latest 386 processor, IBM Mr George Conrades, IBM vice-president in charge of workstations, said recently that those users looking for performance beyond the limits of the Intel-based PC and PS/2 products, should now look to the company's RISC-based RT/PC range.

As it will be including the Micro-Channel Architecture bus in future RTs, the company obviously feels it can see the end of the PC as it is known today, as well as the end of Intel's dominance in the market.

Martin Banks

SPREADSHEET DEVELOPMENTS A new generation emerges

FEW COMPUTER applications have ever been dominated to the extent that the microcomputer spreadsheet market has been dominated by Lotus 1-2-3 for the past five years.

During that time - surprisingly, considering the rapid evolution of computing in general - there has been very little change to the spreadsheet concept. It was, and is, primarily a two-dimensional calculator that is suitable for little more than numeric doodling.

The spreadsheet's limitations are closely tied to the limitations of the personal computer. In many ways the application can be described as the archetypal PC program (it may be remembered that the first successful microcomputer spreadsheet was a product called VisiCalc, running on the Apple II).

Indeed, there are those who believe that Apple's success as a manufacturer is due more to its success in recognising the success of the original Apple hardware.

Initially then, the spreadsheet was a personal productivity tool operating entirely in memory in a personal computer. Its concept is a matrix of cells formed by the junction of rows and columns. Each cell can contain text, numeric data, or formulae.

Wherever a cell contains a formula, the program evaluates the instructions and displays the result. So that if cell A2 contains a value, cells A3 and A4 could contain the formulae "A1 times 0.15" and

"A1 plus A2" to show the VAT and gross values respectively. If the content of cell A1 is changed, the values shown in A2 and A3 are automatically (dynamically) recalculated. A complete matrix of cells saved as a file is known as the worksheet.

The program, and the worksheet being processed, need to operate in memory for the selling point of "dynamic calculations" to be possible. This means that both the size of the program (and therefore the number of features, functions and so on) and the size of the worksheet (the number of rows and columns in the matrix of cells) are both limited by and to the size of computer RAM available to the PC.

So, in the early days of 64 kbytes 8-bit microcomputers running the CPA operating system, spreadsheets were capable of little more than personal numeric calculations. To call such a program a "financial modeller" really stretched the advertising claims to the limit.

But then came the 16-bit Dos-based PC, with an effective memory limit raised to 640 kbytes. Suddenly, the spreadsheet could do much more.

It was into this market that 1-2-3 was launched - and it has been so successful that an entire software industry of add-ons, add-ins and applications has developed around it.

The basic functionality of the spreadsheet expanded rapidly. Database functions were added (conceptually, a work-

sheet is a database, a row is a record, the columns are field types, and a cell is an individual field).

Business graphics features were added so that, for example, a worksheet showing sales by month could be translated into a pie chart for visual presentation at a meeting. These three functions, incidentally, are the three aspects of 1-2-3.

The spreadsheet was and still is a single-user, stand-alone personal productivity tool not really suited for corporate modelling. But, under the Dos operating system, it has become an excellent tool for the small business user or individual executive.

During this time the PC has developed so successfully that all the previous design limitations of the spreadsheet application have been overcome and the result is today what is a great surge in new features, better functionality, and faster performance. We are now seeing the emergence of a new generation of spreadsheets capable of what even die-hard mainframe scientists admit to be "true computing".

The two latest trends in spreadsheets can be summarised by the products that the market now awaits: Lotus 1-2-3/3 and Lotus 1-2-3/G. The second "3" stands for more than just "version 3" although it is this too, it stands primarily for the 3rd dimension.

The basic spreadsheet is only two-dimensional (rows by columns, or sales by time). It is

this limitation more than anything else that keeps the spreadsheet out of corporate planning. However, the third dimension means that spreadsheets can now analyse sales by time by region.

Think of it as a series of separate but similarly-designed worksheets, one for each different region, laid one on top of the other. Each worksheet still shows sales by time, but now sales can be analysed by region within time just as easily as sales by time within region.

The effect is to lift the spreadsheet's capabilities on to another plane (literally), where it becomes a valuable tool even for large corporations.

Lotus' 1-2-3/G will have similar capabilities, but is designed for the emerging world of graphics-based computing. Following the success of the Apple Macintosh, IBM is in the process of moving its microcomputer emphasis from the purely character-based Dos operating system, to the graphics interface of Presentation Manager under OS/2.

Presentation Manager and OS/2 are, of course, only aspects of a wider IBM philosophy: that of drawing all of its systems together within a single user interface. The concept is known as System Architecture (SAA).

It means that applications will appear the same to a PS/2 user as they will to an AS/400 or System/380 mainframe user.

Lotus is currently working with IBM to develop a main-

frame version of 1-2-3. The primary difference is that it will be multi-user. 1-2-3/G version of this program, using the graphics interface of Presentation Manager.

Graphics-based programs already exist, primarily on the Macintosh. Trapeze is an excellent example. Not only does it allow many features not normally associated with a spreadsheet, it also allows the incorporation of graphic images within a text spreadsheet - and the graphics can be free-hand illustrations or data-driven graphs.

Excel has been converted from the Mac to run under Dos and MS Windows on the PC AT and PS/2, but it can be only an interim product before a Presentation Manager version is produced. The likely future development will be for character-based programs to remain under Dos, while graphics-based programs will migrate to OS/2 and Presentation Manager.

Microcomputer spreadsheets now stand on the verge of a brave new world. They are about to break into the corporate market proper and they will become increasingly easier to use, thanks to the power now available to PC users and the new graphics interface pioneered by Apple.

In both cases, it is unlikely that anything will threaten the domination of 1-2-3 in the foreseeable future.

Kevin Townsend

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Martin Banks

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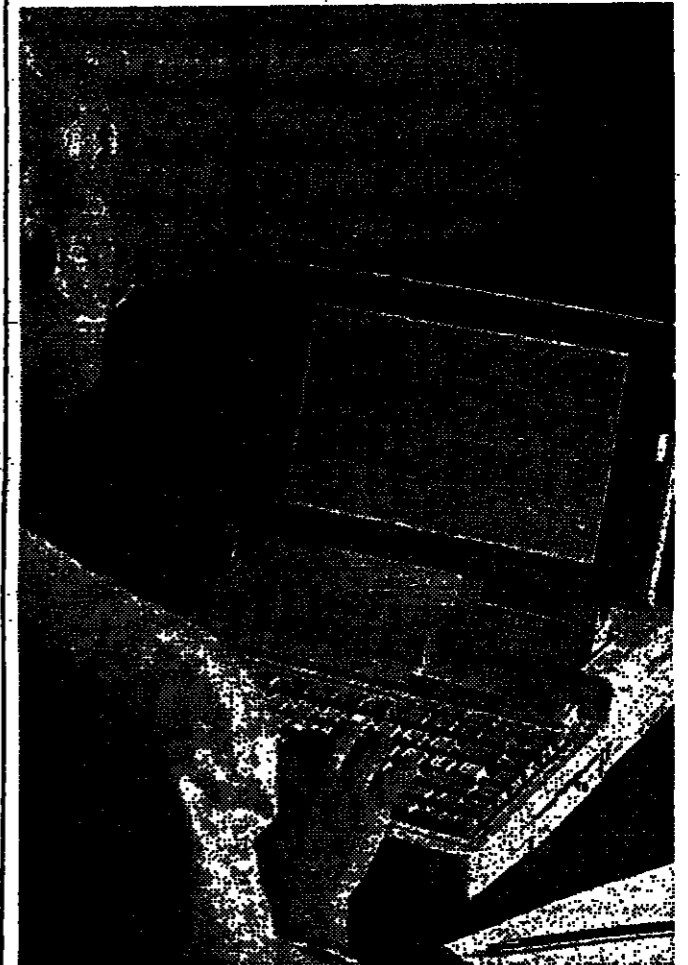
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PERSONAL COMPUTERS AND SOFTWARE 9

WORD PROCESSING PACKAGES

An increasing choice

THE MOST widely-used application of a personal computer is, without doubt, word processing - and the most widely-known WP software package is WordStar. This package has been around since 1978 when it was originally available for the then de facto microcomputer operating system, CP/M.

Since then, more than 3m copies of the various versions of WordStar have been sold. Even without the vast number of pirated copies in use, the vendor, MicroPro, claims to have the largest installed base of word processing software in the world.

In comparison with today's WP packages, the original WordStar was relatively primitive and only had a limited range of facilities and was laborious to use. In fact, MicroPro says that the constant improvements have resulted in only about 15 per cent of the original code remaining.

With the introduction of the IBM PC, with its more powerful microprocessor, it became possible to develop far more sophisticated WP packages. Not only did this allow a wider range of facilities, they were more simple to use, i.e. they were more user-friendly. Consequently, today's WPs bear little relation to those of even a few years ago.

This development did not seal the fate of WordStar, because "today's user" has become competent in the application of a package, it is a major step for them to learn another.

Hence, it is not the cost of

the new package which is the deterrent, but rather the time and cost of learning to become adept with the new package. Furthermore, there would be the problem of reading files prepared using the previous program.

Not only that, standardisation is frequently of vital importance in the corporate environment. It must be possible for one person to be able to edit and otherwise manipulate a document prepared by another.

For example, an executive, when preparing a report, may wish to dictate the bulk of it to his secretary. The disc may be returned to him so that he will be able to both complete the report and to check for typing errors. The secretary may finally format the document to enhance its appearance and then do the printing.

This highlights just some of the varying needs encountered in an office, even without there being any special technical requirements such as incorporating a special spelling checker of technical, scientific or medical terms.

Equally well, while users at one time were satisfied to have a means of inputting and editing text and obtaining a hard-copy, there is more emphasis today on incorporating graphics as well as moving towards desktop publishing, (DTP). Consequently, selecting the right WP package is a key decision which should not be taken lightly.

A comparison carried out earlier this year by the independent reviewer, InfoCorp, on

the then-current versions of Microsoft's Word, WordPerfect, MultiMate Advantage II, DisplayWrite 4 and WordStar 2000 Plus, ranked the last-named Number One on 11 of the 16 features assessed. The report stated that it was the product which would appeal to the widest variety and largest number of users.

Nevertheless, it is believed that one of the other WordStar products, WordStar Professional, will be enhanced in its next version, Release 5, so as to be easier to use.

It is expected that it will have pull-down menus; in addition, it is expected to have increased laser printer and Postscript support to enable it to handle simple DTP. Thus, it can be seen that MicroPro does not see one product being able to satisfy all word processing needs.

Similarly, while nothing has been confirmed, it is expected that Microsoft will bring out several new WP packages in the coming months because it is increasingly recognised that with the huge range of people now using WPs, no single package can be all things to all users. This is despite the fact that Microsoft's Word has been adopted as their standard WP package by many corporate users because of its wide range of features.

For example, mouse control together with on-screen menus make the package easier to operate than one just using function key codes; outlining allows creators of long and complex documents to build them within an easy structure under headings and sub-headings; and style sheets allow complex layout and printing styles to be attached to entire documents with a single keystroke.

Not only should features be taken into account - it is important to have adequate support. For example, Peter Ferguson, managing director of Sentinal Software, the exclusive UK distributor of the best-selling WordPerfect package, stresses the point that his company provides lifetime support for licensed users which includes "help-lines" and low-cost upgrades.

Equally well, the risks of buying from low-cost "box shifters" who may be selling non-UK versions which will, for example, not have the correct UK keyboard driver or a true UK spelling-checker. (However, when one looks at the advertised discount prices, especially from the US, the temptations to cut corners are very great.)

WordPerfect also helps users prepare for the longer term by being available for a wide

range of dissimilar machines. Version 4.2 offers complete file compatibility between DEC, Data General, IBM PC and compatibles, Amiga, Atari and Apple computers without any program conversion.

While the vast majority will not need this facility, it does show its potential for being relatively "future proof." Not everyone goes for the well-known names. The Pharmaceutical Journal, the organ of the Royal Pharmaceutical Society, has recently provided its editorial staff with PCs and has standardised on Xywrite from Xyquest of Bedford, Mass. in the US.

This is a high power package that is not driven in a similar manner to ATEK, the high-performance commercial word processing system used by national newspapers and major publishing houses. It features all the typical word processing capabilities plus split-screen editing, custom formatting options; footnotes; cross-referencing; tables of contents and index extraction.

Where it appears to score is with factors such as its speed of operation, including its instant single-word spelling checker, and its ability to switch easily and rapidly between up to nine text windows.

What are the likely future

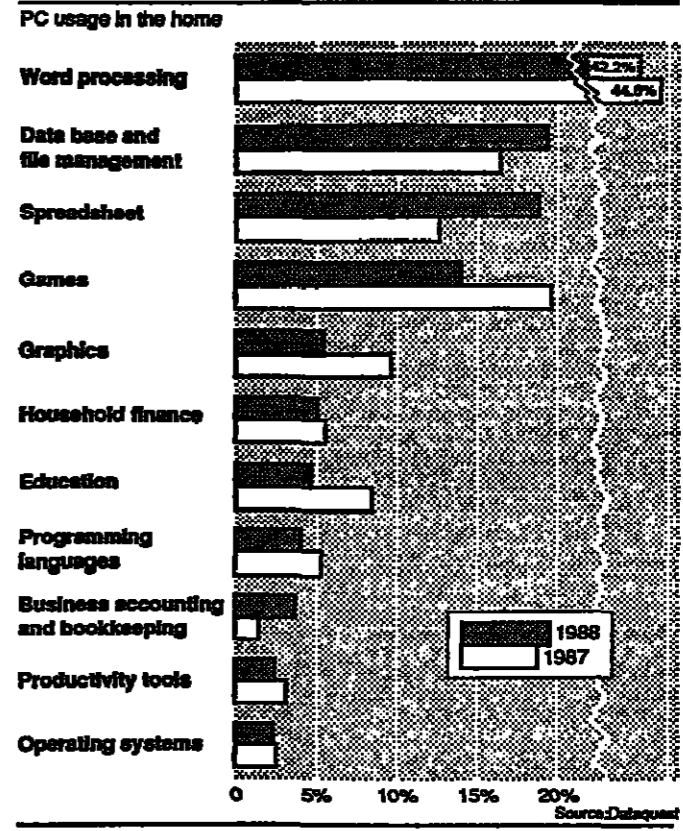
trends? Lotus Manuscript 2.0 is claimed to have been created specifically for users who need to communicate with more than words. As with Lifestree's Total Word, it mixes graphics with text constructs tables as well as handling document management such as tables of contents and so blurring the distinction between WP and DTP.

However, there is still plenty of scope for innovation. Borland, one of the major software houses, has just entered the WP market with Sprint, despite the intense competition. This package, as well as claiming to be immensely powerful with total flexibility, has a series of user interfaces which emulate a number of established packages such as Microsoft Word, WordStar and WordPerfect.

In addition, it can also import and export files in these other formats. Furthermore, it automatically saves text every three seconds or so - and this helps to protect the inexperienced user from himself.

If it is as good as it seems, it will obviate incompatibility problems and users experienced on different packages will all be able to use this one package. Perhaps this will be the way for packages to go. With PCs commonly having 640K or more of RAM plus a

Software applications



hard disc of at least 20Mbytes, most machines appear to have the capacity for all the "bells and whistles" that would have been unheard of just a few years ago.

Adrian Morant

Word processing is the most widely-used application for personal computers in the 'home office', as well as in the business environment, as the above chart indicates. The latest WP software packages are increasingly simple to use.

LAPTOP COMPUTERS

Portability brings big benefits

WHAT IS a laptop computer? Is it simply a desktop computer that can be carried around in a briefcase? Does it run from internal batteries or does it need to be connected to a mains supply? Is it compatible with standard desktop personal computers?

A laptop computer can be all or any of these and, while almost everyone knows what the term means, one person's definition will not necessarily be the same as another's.

Further, the original meanings, definitions and applications are now being stretched beyond all recognition by the rush of new technology.

For the manufacturer, designing a laptop computer is rather like trying to put a quart of alcohol into a pint pot - one knows that it is impossible to get them all in but has difficulty in deciding which ones should be left out.

Consequently, a large amount of research is carried out into miniaturisation, to increase the packing density, together with market research to identify specific features for which people are prepared to pay.

First generation machines, such as the widely-used Tandy model 100 (and the 102 which superseded it) with its 40 character x 8 line LCD display, were - and still are - ideal for the personal word processor and favoured by many journalists.

A battery-powered unit the size of a telephone book and weighing less than 4lb, it had built-in software to carry out word processing, telecommunications, address book, and scheduling functions.

It could be carried anywhere and, with suitable peripherals, could print out a document or even send the material down a telephone line to a remote computer. As a result of its ease of use and versatility it was widely adopted.

The Tandy model 200, with its 40-character x 16 line display, and the Cambridge 208 (80 char. x 8 lines) are developments on the same theme. The latter, in particular, is aimed at packing as much functionality into a very lightweight portable unit - its monitor can be extended to over 1Mbytes (enough for about 200 typed A4 pages) and its software even includes a spreadsheet.

These machines are small, light and do not incorporate disc drives and so have the potential to be fairly robust. While they can meet the needs of many users, data can generally be transferred between them and standard PCs, they are not compatible with such machines.

This is an important factor to many who need to be able to use the same programs and, equally important, to use the same data while on the move.

For those who must have PC-compatibility, Toshiba's T1000 bridges the gap. At 4.6lb it is the smallest and lightest IBM-compatible machine with a built-in disc drive. It will run for up to five hours on its built-in rechargeable batteries.

Even though experienced PC users may feel constrained by having just one disc drive, its size and weight combined with relatively low cost make it an acceptable compromise for many.

The next sector, the laptop computer which is small enough to go into a briefcase and yet pack the same "punch" as many a desktop PC, has



Small but powerful: a portable computer from Data General.

attracted the most competition. The Tandy 1400 LT PC has two built-in 3.5 inch disc drives each giving twice the capacity of the older 5.25 inch drives.

Like all its major competitors, it is self-contained, running on built-in rechargeable batteries and featuring a backlit "Supertwist" LCD display for clarity.

Other machines in this class, while fundamentally similar, may be smaller in size, lighter in weight, or incorporate a hard disc instead of one of the 3.5 inch floppies, in the light of what a particular manufacturer's market research dictates as being most significant.

For example, Sharp has its PC-4500 series, ranging from a single floppy machine to one with a 20Mbyte hard disc, while Toshiba has "squashed down" the height of the displays in its T1100 and T1200 machines so that the machines are only marginally over 12 inches square.

Thus, this company is placing the need for portability over the requirement for a display of normal aspect ratio.

On the other hand, the Zenith Supersport 2-194 has the normal aspect ratio screen but is about three inches longer. It does, however, feature a detachable battery to, as the company's literature says, "reduce weight and size when a transportable or desktop system is the only requirement."

Here lies the crux of the matter. Laptop computers are no longer just for use while sitting in airport lounges, they are frequently bought for their sheer portability - that is, their ability to be readily moved from one place to another.

This may mean that an executive can take a machine home to do a task or an accountant can take the computer with him when he is carrying out an audit on a client's premises.

Then, when returning to base, files will frequently need to be transferred to one of the office machines. This task is being simplified for its new users by Zenith.

It is bundling the Lap-Link data transfer package from Travelling Software with every Sharp Supersport computer. This is a combined hardware/software package which includes a universal cable and both 5.25 and 3.5 inch discs.

It allows any IBM PC or compatible to share files with an equivalent machine, i.e. laptop/laptop or laptop/desktop even when the disk sizes are different. Thus, it enables laptops to be integrated readily into the company's PC structure.

Different sectors apply to machines that are intended to be portable rather than be used

Business case study

PC network for 650 branches

THE OPTICIANS, Dollond & Aitchison, founded in 1750 and today enjoying an annual turnover of \$150m are currently implementing a major programme of technology throughout their 650 branches and four manufacturing sites in the UK.

This technology ranges from the RPOs systems which are rapidly being installed into branches and should be fully implemented by next June to a sophisticated optical system which is being phased in more gradually. The programme is centred on the ICL personal computers which are linked to the company's IBM mainframes over the EDI Trandatec system.

The ICL Quattro XM personal computer in each branch may run three or four screens and printers and operates on bespoke software written by ICL.

"We decided to introduce new technology to improve our services and reduce human error," says Adrian Shield, information services director of Dollond & Aitchison. "We wanted a system that would allow our staff to spend more time counselling patients and less time on repetitive administrative functions."

The company was also emphatic that the technology should not interfere with the professional role of the opticians, and so the optical system part of the programme has been supported by a good deal of training, and is being introduced in two stages; the first phase covers patients' records and prescription details and the second deals with dispensing, appointments, payments and active records file.

This latter part of the system works almost like an expert system, guiding the dispensing optician and customer through a series of options on lenses and prices to arrive at something suitable.

The optician calls up the patient's records on the PC, and feeds in details of the sight test and requirements. He can then look at different types of lenses (bifocal, varifocal and so on), enter costs and discuss these with the patient.

The system produces quotations which it can hold for up to eight days while the patient decides which to choose. Once the decision has been made, the quote is converted into an order and goes over Trandatec to the factory to be made up.

The manufacturing side of the business is run on an IBM System 36 which matches the branch orders against stock, controls processing and enables the branches to chase orders. Stock control within the branches is operated from head office on an IBM System 38, which collates data on the sales, styles and quantities from the 650 branches.

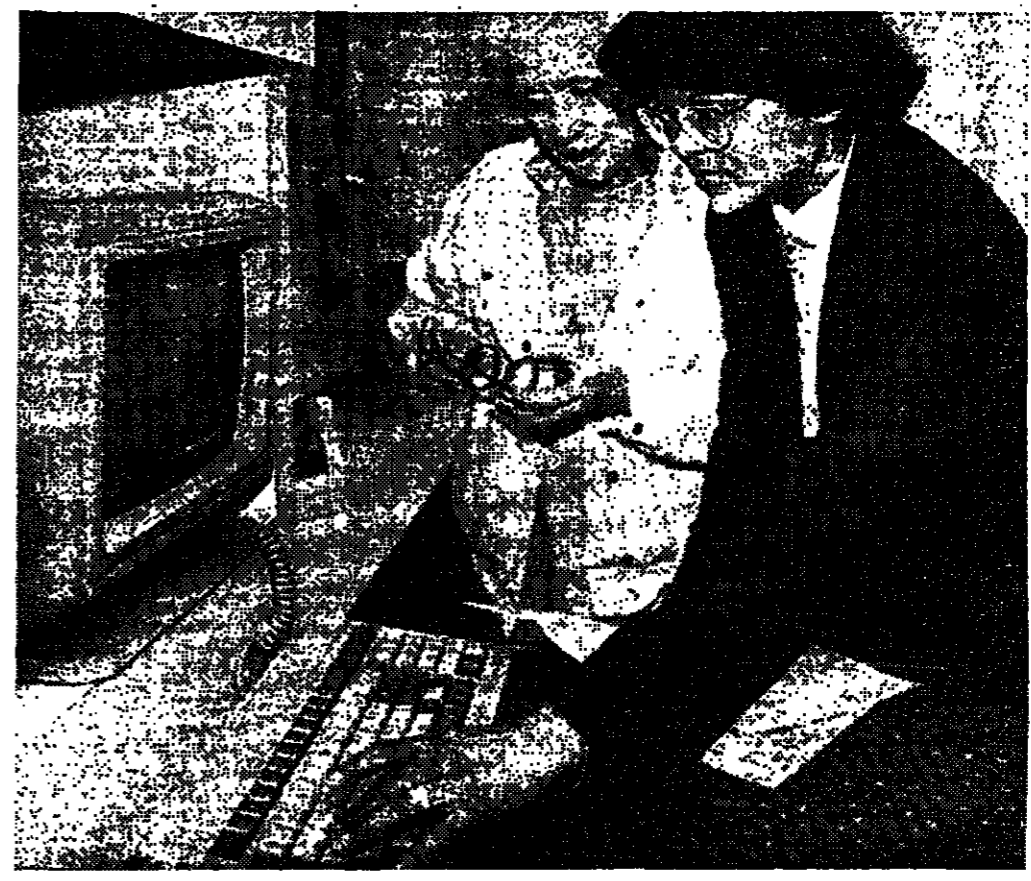
Because the company is undertaking such a major programme, great emphasis is put on training the 5,000 employees on how to use ICL. A training system has been devised which deals with the different phases of the programme as they are installed, and 50 staff have been trained as computer system trainers.

Their job is to train branch staff on using the various phases of the system. ICL's Retail Training Unit has also

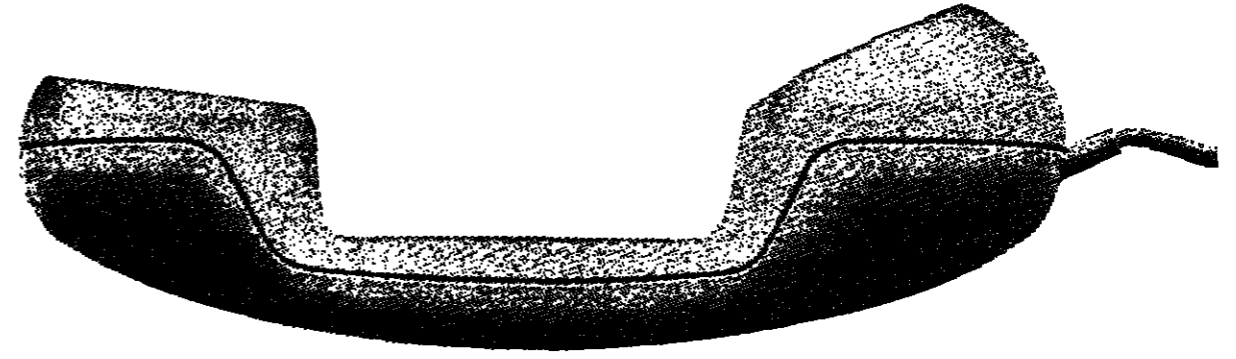
helped set up a training centre at Dollond & Aitchison's main manufacturing outfit at Yardley, near Birmingham.

"We recognise that support is also very important," says Adrian Shield. "Our staff are not computer experts, so if something goes wrong, they can ring our central help desk and receive immediate advice. This much-used facility has helped to ensure that acceptance by staff of the new technology has been very positive."

Elizabeth Sowton



Pictured right: the system at Dollond & Aitchison, the European optical group, is centred on ICL personal computers, linked to an IBM mainframe.



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Adrian Morant

PERSONAL COMPUTERS AND SOFTWARE 10

Solutions sought in man-machine interface problems

More help for non-technical users

ANYONE WHO has tried to program a video recorder knows that the controls on the tools we use, often leave much to be desired. The video recorder, in common with many other electronic devices, provides the power to plan and control the future. But to be useful, this power must be presented in a simple and straightforward manner.

The problem of control in computer systems is aggravated by the nature of computer systems.

Software for future PC-users will be easier to learn and to apply.

ers themselves. They are designed to be general-purpose machines, which may be adapted to many different jobs. They may be used for wordprocessing. They may be used for financial planning. Or they may be used for draughting technical drawings in a computer-aided design system. They could conceivably be used to do all of these jobs simultaneously.

Unfortunately, each of these tasks presents different problems of control and the tricks used successfully in one area do not necessarily work as well in another. In wordprocessing, for example, most of the 'control' must be exercised through the keyboard. But when it comes to editing the document, the 'mouse pointer' makes the task much easier.

Similarly, the use of 'windows' on the display screen is useful where the task demands lots of graphics. But in tasks where graphics are unnecessary, such as planning a budget with a spreadsheet program, the windows are less useful.

In the computer world, this

problem of how to bring power to the user simply, is described as the Man-Machine Interface (MMI) problem and it is one which has received a great deal of attention in the last year. In the early days of computers, the people who used them were highly-trained professionals who could afford to take time to learn the intricate methods of controlling systems. And they were paid high salaries to do it.

But since the start of the 1980s and the extraordinary growth of personal computer use, attention has shifted to MMI. Personal computer manufacturers and software developers have had to find ways to make computer power more accessible to the non-technical user. After all, they are not paid to put up with the awkward mechanisms used to control earlier computers. If they do not like the product, they will not buy it.

A major breakthrough in MMI design came in the late 1970s with Xerox's Star system, the result of a lengthy research project at Xerox's Palo Alto Research Center (PARC) in California.

This system brought together a number of ideas, including the 'mouse' pointer pioneered by Douglas Engelbart at the Stanford Research Institute some years earlier.

Although Xerox Star was not a commercial success, the ideas embodied in it were taken up by Apple Computer and led to the Lisa and, later, the Macintosh.

The Lisa suffered the same fate as the Xerox Star and Apple eventually abandoned it. But the Macintosh went on to become the only serious rival to IBM's PC. The combination of the mouse pointer and windowing proved to be especially popular with certain groups of what Apple calls 'knowledge'

workers and the Macintosh quickly attracted a cult following. By 1987, this cult had grown to an influential size and IBM PC-users began to sit up and take notice. This change of attitude from PC-users and developers prompted IBM to promise a comparable 'mouse-plus-windows' interface for the PS/2, its new range of personal computers, launched in April 1987.

A challenge for IBM

AN INTERNATIONAL group of computer manufacturers, including representatives from the US, Italy and Japan, has within the past few days announced a challenge to IBM's Micro Channel Architecture, (MCA).

The group, AST Research, Compaq Computers, Hewlett Packard, Tandy and Wyse of the US, Olivetti of Italy and Epson and NEC of Japan, are urging the adoption of a new microcomputer design that provides the power of Micro Channel Architecture in computers using the latest microprocessor chips while remaining compatible with machines using earlier technology.

Mr Ben Rosen, chairman of Compaq Computer, which has been a stout defender of the "industry standard architecture" which characterised IBM-style personal computers until the introduction of the Personal System/2 family, said there was a clear case for developing a design which allowed compatibility between older chip designs and new, while providing speed equivalent to, or greater than, MCA.

as Presentation Manager, in Systems Applications Architecture, its grand scheme for standardising its three main ranges of computers.

The issue is how to bring computer power to the user, more simply.

Software developers Microsoft and Digital Research both attempted to bring the Xerox Star interface to the PC and had some success. Microsoft Windows is the model for IBM's Presentation Manager and Digital Research's Gem has been adopted by, among others, Xerox for its desktop publishing package Ventura.

But it took IBM's backing to make the mouse and windows 'legitimate' in the eyes of industry in general. Presentation Manager will not only bring a better interface to PC users, more importantly, it will bring a common interface, which will ultimately be adopted by all PC software developers.

This brings additional advantages. As well as providing a relatively simple mechanism to control individual programs, Presentation Manager will enforce much-needed standards for MMML.

A study published at the end of 1987 by US researcher The Gartner Group, which compared PC usage (prior to Presentation Manager) with Apple Macintosh usage, showed that Macintosh users learned most of the MMI controls in their first program.

The learning curve for subsequent programs was virtually non-existent. By contrast PC users have had to learn a new set of controls for every new program they buy. Presentation Manager will change this and make life easier for PC users.

The transition is not without its problems, however. Apple has zealously guarded what it sees as its 'invention' - that is the Macintosh interface - and has pursued an aggressive

course of litigation to prevent other manufacturers from copying it. It threatened Digital Research with legal action in 1985 and forced it to change Gem. And earlier this year Apple brought a lawsuit against Microsoft and Hewlett Packard which claimed that their 'mouse-plus-windows' interface copied the 'look-and-feel' of the Macintosh.

Microsoft and Hewlett Packard dismissed the claim and said that the idea originated

with Xerox, which gave Apple no grounds for a claim. The argument is unlikely to effect IBM's Presentation Manager, however.

Shortly after the Apple suit was made public, IBM took the unprecedented step of acquiring a software company called Metaphor. This company just happens to have a license agreement with Xerox for the Star interface - which puts it into the same legal position as Apple.

It has taken the computer industry a long time to agree on the best method of controlling its systems. But it does look as though the problem is close to a workable solution.

The Apple Macintosh interface and IBM's Presentation Manager are not perfect. But they are a positive step in the right direction. They are relatively easy to use and will enforce a standard which, it is to be hoped, will be respected by software developers.

This should mean that future software will be easier to learn and easier to use.

Alan Cane

Philip Manchester

Case study: PC business applications

Ways to cut down on tedious tasks



Mr Steven Myers: "The benefits of the network are clear."

COLONIAL Mutual Life, the Australian life assurance group which celebrated its UK centenary two years ago, ranges in the scope of its business from life assurance, pensions and investment management to the more recently added unit-linked schemes.

It links its 60 sales offices and 800 sales staff around the country to head office in the City on a network of ICL DRS personal workstations.

The network is driven by two mainframes, ICL Series 39 Level 60s, located at the Ludgate Hill head office, which were installed just over a year ago as a result of a detailed appraisal of the company's technology.

Mr Steve Myers, the group's information services manager, says: "We installed the DRS PWS's about six months ago. We have now completed the first part of our PC network, which is to have one in each branch office, and we will be expanding that to include extra terminals over the next year."

The group is currently introducing its Sales Information System, a programme which will monitor business levels and operations throughout the network. The introduction of the DRSs is an essential element in implementing this programme, which runs on an in-house software system.

The Sales Information System will be used at head office for receiving information on new business from all the branches, and will allow information about proposals, sales and so on to be updated in seconds and called up immediately by any branch or by head office.

The DRS personal workstations run on a software package called Solvit, written by a small software house in Romford, Essex, and extensively customised for Colonial Mutual. The PCs operate on the XOS Mercury network, although this may be reviewed in the light of heavier use.

The DRS itself is a highly flexible, multi-task PC which can be used either as a stand alone workstation using MSDOS applications or integrated into information-sharing DRS networks. Their greatest impact, Mr Myers says, has been on the pace of business and on the dissemination of information.

An example of this is to be found in the company's actuarial department in the City. Here, staff used to need about

individual customers, and print out a policy accordingly. Because all this information is fed straight through to the group's mainframes, it can be used for a number of cross-marketing purposes. For example, the two interrogation systems, CABS and Querymaster, search the system to determine such variables as all policy holders coming up to retirement age, or under the age of 30, or in a particular location, or recently widowed and so on.

The ability to draw out this information rapidly and without employing huge resources of time and personnel has obvious advantages, both in terms of new business and in forward planning.

Next year, Colonial Mutual hopes to have all branch information downloaded automatically each night to head office, a facility which will greatly increase the potential for marketing and defining areas of new or lax business. Until now, someone has had to sit on the phone all week, call each branch individually to collect the figures, and then collate them.

Two weeks to perform the highly-tedious task of punching in, checking and repunching if necessary, all the rates for policies. This now takes between one and two hours, freeing staff to turn to new areas of business.

Areas such as profit modelling, another example of a previously demanding and complicated task, can now be performed speedily and easily, which in practice means it is carried out much more frequently than used to be the case.

The impact on the branches can be seen in two ways. From the staff's point of view, the introduction of the PCs has brought them closer to the heart of the business by allowing them access to information about performance, sales, profits and so on, as well as changes in rates, policies and company news.

This new-found ability to carry out their own spot checks on their individual performance, personal targets and commissions has had an encouraging effect on staff.

From the customer's standpoint, the system will soon be able to produce policies based on best advice - in accordance with the financial services legislation - enter the details of

Since the system is relatively new, it is hard to gauge the reactions from staff. "Obviously we have those who are computer literate and take to the PCs quickly, and those who are not," Mr Myers says. However, he points out that since the benefits of the PCs are clear, most problems introduced them.

Next year, Colonial Mutual expects to develop the network with multi-terminal branches, when the new ICL PCT terminal (a slightly less intelligent version of the DRS) will be added to existing workstations, and the completion of the Sales Information System.

So far, Mr Myers says, the group has invested more than £5m on new technology. Rather longer term is the foray into expert systems which is currently being investigated, in conjunction with Arles, the expert systems group.

Elizabeth Sowton

Staff in the company's actuarial department in the City of London used to need two weeks to perform the highly-tedious tasks of checking and punching in rates on policies. Now the job takes between two and three hours.

PERSONAL PRODUCTIVITY

Integrated packages adapted to change

AFTER THE initial surge in the personal computer software market in 1982/83, represented by the rapid rise of companies such as Lotus, Ashton-Tate and Micropro, the industry looked around for an escape.

Marketing sense suggested that a combination of Lotus's spreadsheet, Ashton-Tate's database and Micropro's Wordstar would provide a suitable candidate. Thus, the so-called 'integrated' package was born.

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Framework is third in the list of Ashton-Tate's best-selling products, worldwide, behind dBase III and Multimate, a wordprocessor.

The main barrier facing integrated packages is encapsulated in the phrase "you can't please everybody". While users might be quite happy with Framework's spreadsheet or Symphony's word processor, they might prefer to use Borland's Paradox database. Or their employers might have decided to standardise on Micropro's Wordstar for word processing and Microsoft's Excel for spreadsheet work.

Added to this is the rapid progress in the personal computer industry which constantly throws up new hardware (laser printers, CD-ROM and digital scanners and three recent examples) and applications (desktop publishing and presentation graphics).

A package which embraced virtually all personal computer applications in 1984, looks quite thin in 1988.

Mr Sloane says that his company is reluctant to add too many new features to Framework because of the danger of 'over-complicating' the program.

Framework III includes support for the mouse, in addition to electronic mail and local area network support. But the more we enlarge it, the more the risk increases that it will be less easy to use," he says.

One way in which integrated packages have adapted to change is to include 'import and export' features. This means that Framework, for example, can read data files created by other programs - such as Ashton-Tate's own dBase or Lotus 1-2-3. Symphony provides similar features.

Integrated packages seem likely to develop as front-ends to networks of computer systems, which run many different programs. Apple's Hypercard provides an example of the likely direction of personal productivity tools.

Hypercard, which was released only a year ago, is given away free with every Apple Macintosh. It embodies

some of the techniques from 'hypertext', a method of organising large amounts of data suggested by Vannevar Bush, President Roosevelt's science advisor, as long ago as 1945.

Hypertext allows items of data to be 'associated' with each other according to personal preference, rather than having a rigid structure imposed on them by the database designer.

Although Hypercard appears at first sight to be a special database program, it includes a powerful programming language which can be used to build personal applications quickly and easily.

Hypercard also has a data exchange mechanism which allow it to use files from other systems - "it is really an enabling technology for a whole lot of applications," explains Kevin Hawkins, managing director of Apple software distributor Principal.

"And with the new features which Apple will add to it, it will become even more powerful."

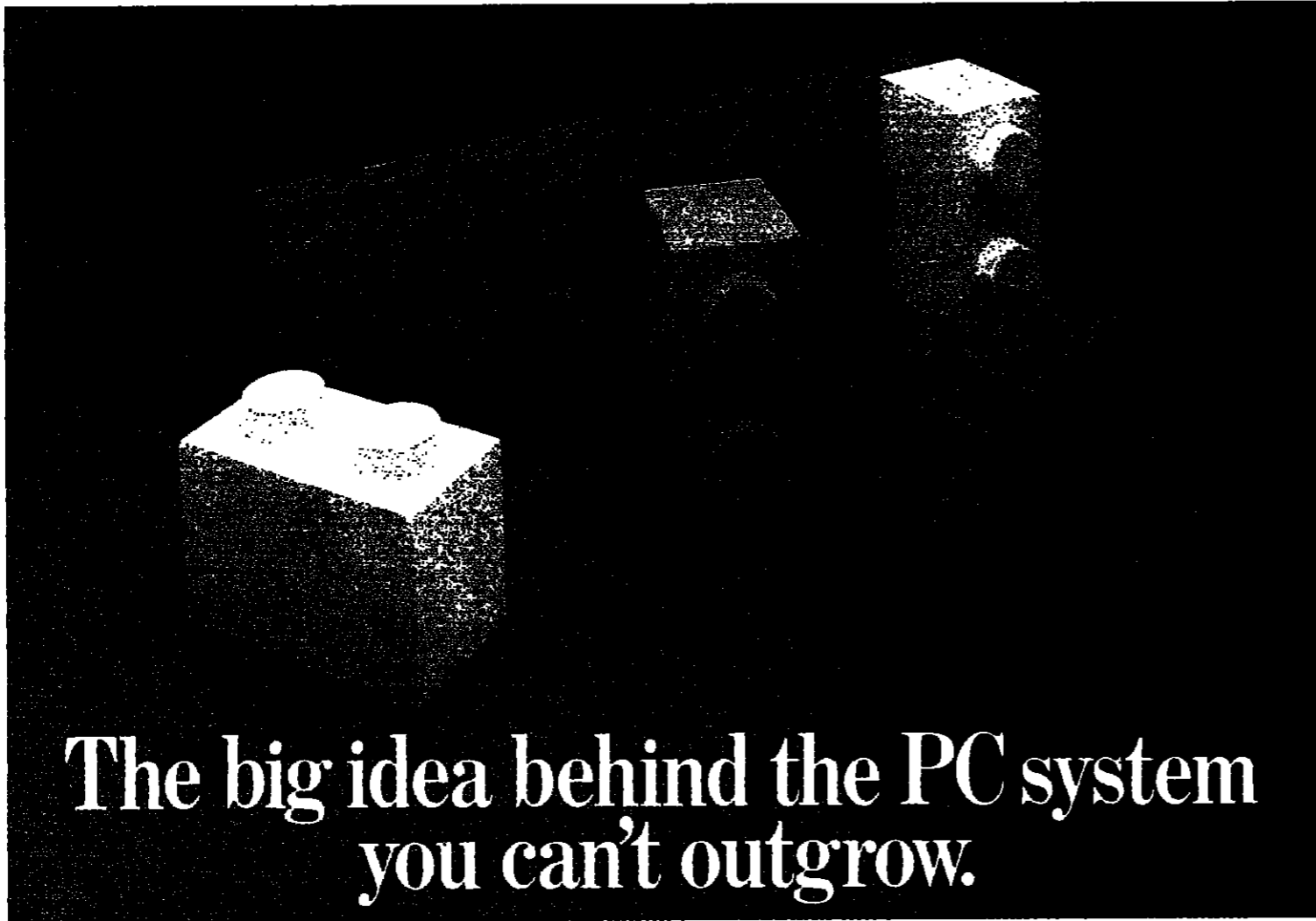
The most exciting recent development in Hypercard stems from Apple's acquisition of Network Innovations, a US software company. Network Innovations has developed a programming language called Connectivity Language 1 (CL/1), which can act as an interface to IBM's SQL mainframe database language.

SQL is emerging as a standard interface between computer workstations and mainframe databases. According to Mr Hawkins, CL/1 will allow Apple to use Hypercard as a 'front-end' for an SQL system - and to extend the personal computer user's world into the network and to the corporate mainframe.

Mr Sloane of Ashton-Tate sees similar developments on the IBM PC. He says that the increased power and storage offered by the new generation of personal computers, represented primarily by IBM's PS/2, promises exciting new applications in the area of 'hypertext'.

He also says that Ashton-Tate could launch a product in this area next year.

Philip Manchester



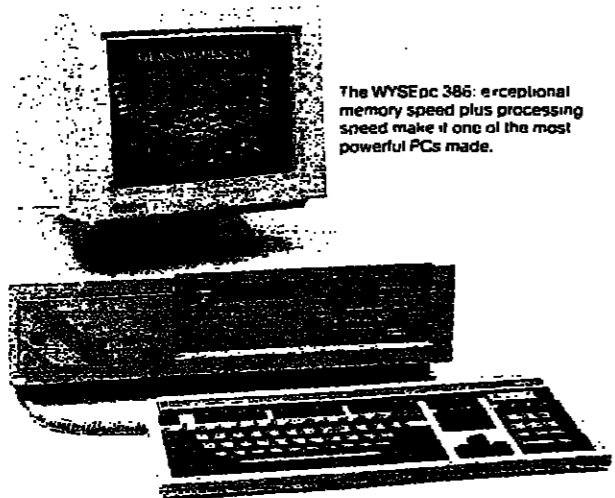
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